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ADDRESS.

GROWTH AND DEVELOPMENT OF MODERN SURGERY.*

BY J. P. RUNYAN, M.D.
LITTLE ROCK, ARK.

I FULLY appreciate the honor your Secretary has conferred on me in selecting me to address you upon this occasion. It is with many misgivings on my part, I assure you, that I come before you today, feeling as I do the responsibility that must be assumed by one who undertakes to do my subject justice. I most earnestly crave your kind indulgence if I fail to meet your expectations and shall ask you to wreak vengeance on the one who so justly deserves your condemnation—the Secretary.

From the time of the discovery of general anesthesia may properly be reckoned the conception of modern surgery, and from the discovery of the principles of asepsis and antisepsis dates its birth. During the past decade surgery has progressed and developed more than it had for a whole century prior to that time. One of our chief factors which has been the means of giving impetus to the growth of modern surgery is the bacteriological laboratory. The laboratory is to surgical pathology what anatomy is to the study of physiology—the foundation.

*Annual Address in Surgery delivered before the Tri-State Medical Association (Miss. Ark. & Tenn.) Memphis, November 19, 1901.

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From patient and long-continued laboratory research were evolved the principles of asepsis and antisepsis. But for the guiding compass of asepsis and antisepsis the bark of progressive surgery had been wrecked on the shoals of suppuration, gangrene and peritonitis. With the proper appreciation and application of the principles of asepsis in modern surgery we have succeeded in relegating "laudable pus" into the obscurity of a corner of oblivion; and the expression once so common on the lips of the surgeons is now found only in the realms of the obsolete. Thus we have been able to successfully invade the hitherto sacred domain of the abdominal cavity, which fact has been the means of creating a new surgery commonly known as abdominal. The peritoneal cavity, once so sacred as to be invaded by only the few, is now fearlessly yet successfully opened by surgeons in almost every hamlet throughout the civilized world. Unquestionably do we note greater advancements in abdominal surgery than in any other department of our science. In no other branch have our ideas undergone such revolutionary changes. During the civil war of 1861–65, gunshot wounds of the bowel were considered inevitably fatal. No attempt was made in the great majority of instances to do anything, from a surgical standpoint, for those poor unfortunates. Good surgery now demands that all cases of gunshot wound of the intestines receive immediate surgical interference, and the results under such conditions are usually considered favorable.

As before stated the bacteriological laboratory has done signal service in promoting the growth of modern surgery. The recognition of the kind of germ contained in the pus of a pelvic abscess often determines the indication for the application of drainage following operation. The blood count is regarded by many of vital import as indicating the character of the inflammatory condition of the appendix. By the use of the microscope we are enabled to make an early diagnosis in malignant diseases, thus assuring a more favorable prognosis as the result of early surgical intervention. Particularly does this hold true in the diagnosis and treatment of carcinoma of the cervix uteri. In this connection it might be well to mention the fact that the subject of cancer is receiving no lit-

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tle attention and consideration at the hands of not a few of our ablest and most scientific men. Let us hope that in the near future their efforts may be crowned with success, and mankind thereby receive a blessing second to none that our worthy profession has ever been able to bestow on their fellow man, as the result of their unceasing and indefatigable energy.

Brain surgery, because of the scientific precision of the cerebral localization methods perfected only during the past few years, is rapidly developing. We are now able to diagnose and successfully remove tumors of the brain and treat abscesses and other diseases which but a few years since were recognized only in the dead house.

Intubation, though a simple procedure, has been the means of saving the lives of many precious babes dying of the asphyxia of diphtheria. Especially is it of service in tiding the case over, as it were, until the administration of antitoxin may have the desired effect. For the discovery of the cause and specific treatment of diphtheria we are obliged to again acknowledge our indebtedness to laboratory research.

In the field of intestinal surgery there has recently been much of value given to the profession. It is extremely interesting to study the evolution of intestinal surgery from the time that Abbe began to experiment with his catgut rings, followed later by Senn's decalcified bone plates, and finally reaching a climax in the invention of the Murphy button for intestinal anastomosis. For a long while this device, being an improvement over any former method or device, has served the profession most admirably, although the results have not been such that would not inspire us to endeavor to seek for more perfect methods. It was found that an occasional complication, such as an obstruction of the bowel, would occur, necessitating a secondary operation for the removal of the button. Endeavoring to obviate the necessity of introducing a foreign body into the bowel, Maunsell devised an ingenious method of suturing the bowel in end to end anastomosis, which was received with some degree of favor. The special points of interest to recommend this method were the rapidity with which the operation could be made, and the fact that a greater portion of the suturing could be knotted within the

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lumen of the gut. But it remained for F. Gregory Connell to give to the profession what seems to be a perfect method, both in rapidity and technique; the results as reported by him in a paper read before the American Medical Association at the St. Paul meeting and published in the *Journal* of Oct. 12th, 1901, justify a careful consideration of his method at the hands of the profession. I have demonstrated to my own satisfaction by experiments on the dog the superior merits of the Connell suture.

The subject of appendicitis continues to engage the attention of the profession. The concensus of opinion is now greatly in favor of early operation, which is fully sustained by the results. The best method of operation is that of amputating the appendix close to the bowel and treating the opening as any ordinary hole in the bowel. This simplifies the operation and reduces the danger to a minimum.

Modern surgery has achieved as much in the treatment of hernia as in any other pathological condition. The time is not far distant we hope when the manufacture of trusses will be a lost art as the result of our modern technique in the treatment of hernia. The improvement of modern instruments and surgical appliances is marvellous, and is no small factor in the improved results obtained by our modern surgeons. Who has amputated at the shoulder or hip joint, with and without the use of the Wyeth pin, without failing to note the comparative ease with which the operation may be effected by its use? What abdominal surgeon has not found the Trendelenburg posture of great service in certain operations?

Shock—the indefinable but easily recognized condition so familiar to all surgeons of experience—is much more successfully treated by the modern surgeon since the adoption of intravenous saline infusion. The surgeon who fails to utilize this useful remedial agent in the treatment of surgical shock from loss of blood or what not, is open to severe criticism, and deprives his patients of one of the most useful agents at his command.

Cocain as an anesthetic agent in the hands of the surgeon has assumed much importance. Minor surgery is no longer dreaded by the patient, and becomes a pleasure to the opera-

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tor since the discovery of the anesthetic effects of this wonderful drug. Its importance, though great before, has assumed gigantic proportions since the popularization of spinal cocainization. Though yet in the experimental stage this method of anesthesia is rapidly gaining converts and bids fair to take its place close by the side of chloroform and ether.

The X-ray, another modern invention, has been found useful both in diagnosis and as a therapeutic agent. Good results have been reported from the use of the X-ray in the treatment of lupus. Is it too much to hope that we may yet find a solution of the leprosy problem through the application of the ray?

We find in surgery as in other branches of science that succeeding centuries have added their quota of imperishable facts, and in our surgery of today we feel that we have almost or quite reached the climax of excellence, and that the future will throw wide its portals to welcome the achievements of the present.

If the noble masters of past ages who lived and labored without seeing the fruits of their efforts could come from their graves today and witness the glories of modern surgery, they would declare a supernatural presence. Yet who will dare look into and predict the revelations of the future! The department of surgery as in the past will continue to march on, hand in hand with its colleague, medicine, and win victories until every field is conquered and we can receive the glorious light of that perfect day.

What various wants on power attend!
Ambition never gains its end.
Who hath not heard the rich complain
Of surfeits, and corporeal pain?
He, barr'd from every use of wealth,
Envies the ploughman's strength and health.—Gay.

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ORIGINAL ARTICLES.

A SUPPLEMENTARY REPORT UPON THE SUBJECT OF GALL STONES. CHOLECYSTITIS AND CHOLANGITIS.*

BY FRANK D. SMYTHE, M.D.
MEMPHIS.
Visiting Surgeon to St. Joseph's Hospital, Memphis.

SOME time ago, perhaps six months, I contributed an article upon gall stones, reporting seven cases.† In that article I took the position that the disease was much more common than was generally believed, and that many cases passed through our hands suffering from gall stone without recognition or even suspicion of the same; and this mainly because of the absence of jaundice. This occasional symptom seems to have taken deep root in the lay and professional mind, and those of that faith have to be shown the stones ere they will concede their existence without its presence.

Another reason was cited for the common error in diagnosis, towit: Failure in obtaining careful history and carelessness and haste in making examinations. In many cases of jaundice where diagnosis of gall stone had been made, no stones were found upon opening the bladder. It is the exception rather than the rule to find gall stones in a patient with pronounced jaundice, though recently I have had three such cases. The jaundice, however, was not dependent upon the gall stones, but upon a general cholangitis. In practice we find that the gall bladder is distended, protruding beyond the border of the liver in uncomplicated cases of gall stone. The concretion becomes lodged in the cystic duct in these cases, shutting off all escape of mucus, and it continues to be poured out by the glands, sometimes causing the organ to become enormously distended downward and toward the umbilicus.

After exposing the organ and getting it well in hand, aspiration is done, a large quantity of transparent mucus escaping.

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 20, 1901
† MEMPHIS MEDICAL MONTHLY, May, 1901.

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At the apex of the gall bladder and filling the cystic duct we find the stones. No jaundice in these cases, nor disease of the common duct.

Another class of cases:

I have had several cases within the past month that were more or less jaundiced and gave history of repeated attacks of pain in the region of the gall bladder, some of them extending over a considerable period; the jaundice becoming less intense at times but not entirely disappearing from the sclera, nor the bile from the urine.

In this class of cases I have invariably found the gall bladder situated high up, far under the liver and very small, closely hugging the stones, containing practically no contents fluid in character. Often in these cases we note dense adhesions of the omentum, which require separation before the gall bladder can be reached and isolated. After removal of the stones we are unable to pass a probe through the common duct into the duodenum, it being completely obstructed as a result of inflammation probably from the duodenum, streptococcic and colon bacillic invasion.

A point worthy of special interest in these cases is the marked diminution in the plasticity of the blood, rendering its coagulability tardy, oftentimes alarmingly slow. No bleeding point, however small, should escape a ligature, and the entire raw surface should be relieved of further oozing by a carefully but firmly arranged sterilized gauze pack. Do not disturb this safeguard for at least ninety-six hours, probably longer still, unless the local or general symptoms warrant its removal, and in that event be prepared for a speedy repacking, for an alarming and rapidly fatal hemorrhage might attend the removal of the primary pack.

Another class of cases:

I have just dismissed two such cases—empyema of the gall bladder, both occurring in ladies under thirty years of age. In one case a stone was found obstructing the cystic duct, the gall bladder being distended; the patient was not jaundiced but was sallow and septic. Gave history of fever for some time, not unlike a malarial remittent in many respects. I will state that empyema of the gall bladder is the only disease that is

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strikingly similar, clinically speaking, to a malarial remittent (the plasmodia settle the malarial feature), and if the organ be palpable diagnosis can be readily made.

The other case of empyema was a suppurative cholecystitis with obliteration of the cystic duct. This gall bladder was removed. The first case was stitched to the abdominal wall, (cholecystostomy) and drained, and I now believe that she would have made a more prompt recovery had cholecystectomy been done.

Another class of cases, and I am done, as their relation concludes my limited experience in gall bladder surgery.

The gall bladder was removed in four cases—one for suppuration, the remainder for catarrhal obstruction and productive inflammation due to an infection that destroyed the functioning portion of the organ, but not pus-producing. I regard the removal of such bladders as essential to the patient's safety, as in them is situated the main focus of infection, and this germ, like many of its fellows, possesses the power of penetration. They escape from their imprisonment in the gall bladder into the liver substance, and there bring about necrotic changes (Eisendrath) impairing the function of the liver and finally if not relieved terminate in death.

The importance of gall stones has by some of the profession long been recognized, but additional evidence was produced by Halstead. At the June meeting of the American Medical Association, in a paper read by Dr. Bloodgood upon the subject of hemorrhagic pancreatitis, he reported a case of this kind, and post mortem found a stone in the diverticulum of Vata, which produced complete pancreatic obstruction in addition to biliary. Section of the pancreas showed extensive extravasation of blood throughout the organ, the function of which seems so imperfectly understood.

This paper is intended merely as a clinical résumé of my recent experience, hence but little time will be devoted to the etiology, pathology and symptomatology of affections of the biliary apparatus.

That the formation of gall stones is secondary to an infection of the common duct primarily, and later the cystic and gall bladder, is pretty generally conceded.

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That women are much more frequently the subject of this form of trouble is a fact everywhere recognized. Likewise they suffer from duodenal disturbance and consequent improper drainage due to irregular and indiscreet eating and lack of physical exercise—a prominent factor in laying a foundation at least of biliary and hepatic disturbances. For the symptoms as observed by myself you are referred to the May issue of the MEMPHIS MEDICAL MONTHLY containing my article on this subject.

Regarding treatment I have but little to add to my former article in the management of that class of cases where the gall bladder is distended but practically free from pathological lesions. Generally we find here one or more stones lodged in the cystic duct. The proper procedure under such circumstances would be to aspirate, incise the fundus, remove the obstruction, close the incision by a row of sutures inserted through all the coats with fine silk and then sero-serous sutures overlapping the original line of sutures. The organ is dropped back into the cavity, and in ten days your patient is able to leave the hospital.

With reference to the second class of cases, where the gall bladder is diseased somewhat, with at times pus present, it was formerly my custom to do a cholecystostomy when long time was required to effect closure, and then we had the gall bladder anchored, which necessarily interfered with the normal mobility of the liver.

I now regard these cases as suitable for cholecystectomy and remove the gall bladder entirely just as I do in those cases of productive inflammation of the gall bladder, where the liver is subsequently invaded by the microörganisms setting up necrotic changes. It not only simplifies the treatment very much, shortens convalescence and gets rid of an organ that in health is of questionable use only, rendered totally worthless by disease and a source of danger and a menace to its owner.

Occasionally cases come up presenting insurmountable difficulties. They are not suited to closure neither can their removal be effected. Here we have to drain, and the operator will select that method best adapted for the safety of the case in hand.

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Discussion.

Dr. O. S. McCown, Memphis: The subject of gall stones is one of interest to the general practitioner as well as the surgeon. In my practice I recently had a case in which, being positive of the diagnosis, Dr. W. B. Rogers was called in to operate. A stone was found in the duct, but while the gall bladder was full of bile, there were no stones in the viscus. The patient was relieved until about six months later, when she was again attacked with symptoms of gall stones, and later passed several large stones. I would like to know if these were newly formed.

Dr. John L. Jelks, Memphis: I would like to ask Dr. Smythe if he anchors the gauze in the gall bladder in his operations or not?

Dr. William Britt Burns, Memphis: I have had the pleasure of seeing several cases of gall stones with Dr. Smythe. It has been shown that a greater percentage of cases of heart disease have gall stones than do those without. Where ox gall is given 23 per cent. of fat is lost in these cases, but where it is not given 60 per cent. of fat is lost, making me therefore think that its administration is good practice in addition to surgical measures. Pancreatis is a disease of which little is known. Obstruction of the pancreatic duct by ligature will produce fat necrosis; hemorrhagic spots are also found in those cases in which fat necrosis exists. In acute pancreatis the spleen is atrophied, showing that there must exist some relationship between these organs.

Dr. Jere L. Crook, Jackson, Tenn.: We are indebted to Dr. Smythe for bringing forth such an interesting subject. I would like to know the number of stones he found in his cases, having seen a case in which 140 were counted, but stopped at that number as we became tired.

Dr. Smythe, closing: With considerable experience I have not found stones in the hepatic duct, but I have no doubt that they exist. To Dr. Jelks I will say I hardly recognize the condition as necessitating the anchoring of gauze in the gall bladder, but follow the method already laid down. In reply to Dr. Crook, I have never counted the number of stones in my cases, but the sister at the hospital informed me that in one of my cases she had counted 208 stones. The diminished plasticity of the blood is necessarily a point of great interest, as the patient may bleed to death if ligature of vessels is not practiced.

REPORT OF TWO CASES OF OVARIAN CYST.*

BY ROBT. W. TATE, M.D.
BOLIVAR, TENN.

In presenting the following cases of ovarian cyst, it is not my intention to attempt to advance any new ideas, but to illustrate that by observing the principles of modern surgery, laparotomies may be performed successfully in the country under circumstances that seem most unfavorable.

It is well for the general practitioner in the country to be

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 19, 1901

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on the lookout for almost any abdominal tumor, and to be able to diagnose large cysts from ascites, peritonitis or pregnancy—especially the latter condition; for cysts occur in the married as well as in the unmarried, and usually in young women.

Suspicion of pregnancy is cast upon any young woman with an enlargement in the abdomen, and often the physician will relieve great anxiety among friends, and also save his own reputation, by giving a positive opinion whether the case is one of pregnancy or a pathological enlargement.

The history of the function of menstruation in these two cases is as contrary as any two histories could be, one suffering from amenorrhea with but few symptoms, the other from a most distressing dysmenorrhea.

The differential diagnosis between ovarian cysts and other tumors in the abdomen is sufficiently described in all text-books on gynecology, so I will not dwell upon it, but I think the signs of a large cyst are brought out clearly enough in these cases to make the diagnosis easy.

Case I. Mrs. S. M., white, 29 years of age. Family history negative. Personal history: married; commenced menstruating at the age of 14, and menstruated again in six months, but not again until May, 1900, and March, 1901. At the time menstruation was expected she had some pain in her back and hips, also some leucorrhea. The menstrual flow was very slight, lasting only one day at most. She had been married thirteen years, but had never become pregnant. Her general health was always poor. There was dyspepsia, her bowels were constipated, and she suffered a great deal with headache, which did not come on with any regularity. She first noticed the abdomen more prominent about two years ago, and suspecting pregnancy her health seemed to improve. She could not remember upon which side the swelling began. After increasing in size for one year the abdomen remained about the same for several months, and it then began to increase more rapidly. Her general health again began to fail, and she would have repeated attacks of colic, which were not accompanied by vomiting, fever or abdominal tenderness, which excluded localized peritonitis; she also suffered with heartburn, fainting spells, shortness of breath and strangury. She had not been able to perform any of her household duties for twelve weeks, remaining most of the time in bed, resting in

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semi-recumbent position. Both feet had been swollen for several weeks.

Examination June 6, 1901. The patient was emaciated but of large frame, being 5 feet 6 inches in height. The lungs were free and clear and the heart normal, also the urine. The abdomen was very much enlarged and the lower border of the chest expanded. The swelling was smooth and spherical; the umbilicus was flat, not protruded. Breathing was entirely thoracic. The abdominal walls were tense, and there was also slight tenderness over the abdomen. Fluctuation was general over the enlargement. There was no aortic pulsation, which is sometimes noticeable. Upon percussion, dullness was general over the anterior surface, the upper line being convex, with resonance in the flanks. The area of dullness was not changed by position. There were no signs of pregnancy. Upon vaginal examination the uterus was found to be small, very high and retroverted. There was some bulging on both sides, probably due to the intestines being crowded down into the pelvis.

An operation was advised and performed the same day. I will say here that the environments were not ideal. The house was one of those one-room log cabins commonly seen throughout our rural districts, having everything in it that could be accumulated in thirteen years of married life. The dining table used as an operating table was brought to the threshold of the west door, that being the only place to obtain light. After preparing the patient by administering a full dose of magnesium sulphate and obtaining in two hours two copious evacuations from the bowels, and the bladder being emptied, the operation was begun. Asepsis and antisepsis were carried out as far as possible.

Through a five-inch incision into the abdominal cavity the cyst wall was recognized. There was one small omental adhesion found on the anterior cyst wall, which was ligated and cut. The cyst was tapped on the upper angle of the wound. After the escape of some straw-colored fluid and no collapse of the cyst, three more were tapped through the first. The posterior cyst was lying to the left of the vertebral column and anchored there by another cyst lying over it, giving the impression to the hand in the abdomen that it was connected with the left kidney and very adherent to the posterior abdominal wall, but after tapping all the cysts through the first and the contents were eliminated, the sac slipped out of the wound easily.

The pedicle, composed of ovarian ligament, fallopian tube and broad ligament, was an inch in diameter. It was grasped

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with a large clamp, transfixed and ligated, then cut between the clamp and ligature, thereby preventing any blood from entering the abdominal cavity. The stump was cauterized with carbolic acid and returned to the pelvis. The pelvis was sponged dry and the abdomen closed with silk and silkworm gut, leaving no drainage. The wound was dressed with aristol. The cyst was multilocular, with smooth, glistening surface. There were four large distinct divisions, each containing fluid of a different character, ranging from bloody to clear serum; also in each there were innumerable small cysts the size of a bird egg.

The after care of the patient was attended to by Dr. Milstead of Crainsville and Dr. Davis of Masseville, Tenn., who rendered me very able assistance during the operation.

Her recovery was uneventful. There was some vomiting after the anesthetic (ether). The temperature rose to 101°F., which in a few days became normal. On the eighth day the stitches were removed, the wound in the abdomen having healed by primary union.

Case II. A. B., colored. There was nothing in the family history worth mentioning, except that her mother died at the age of 35 of consumption. Personal history: Aged 19 years; single; first menstruated at 12 years of age, which continued regular and without pain until 16 years old, and then pain caused her to remain in bed one day before and one day after commencement. Her general health was good at other times throughout the month. She has had a cough for two years, which grows worse in the winter, and then she expectorates freely. She coughs more at night, and has had night sweats during the winter of 1900, their severity being judged from the fact that they were cured by placing a pan of water under the bed, as suggested by a colored friend. Her digestion was good, but bowels always constipated. She first noticed the abdomen enlarging three years ago and sought medical treatment, but was not benefited, the physician suspecting pregnancy and administering placebo. The tumor grew regularly and slowly until eighteen months ago, and then seemingly it grew more rapidly. For the last six months she has been in poor health. Has had more or less constant pain in both sides of the lower abdomen, but worse in the right side. She was not able to lie on this side. At the menstrual period she would suffer terribly with pain in the lower abdomen, and sick stomach with headaches, often being fearful of losing her mind, so great was her suffering. This would last through her entire menstruation—five days.

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She was first seen September 26, and examined. The heart was normal, also the kidneys. The lungs showed some slight variations from the normal, but not enough to accord with the history. One thing was rather interesting: there was absence of liver dullness anteriorly when she was lying on the back, and present when she was upright. The same thing was noticed posteriorly. The abdomen was distended by a fluctuating tumor which gave the objective symptoms of a cyst, to within two inches of the ensiform cartilage. There was tenderness over the abdomen, especially on the right side. There was no history of attacks of localized peritonitis. The uterus was about normal in size, retroverted, the fundus pushed to the left side. The signs of pregnancy were sought for diligently, but were absent.

Sept. 28 an operation was performed. An incision three inches long was made in the median line into the abdominal cavity and the smooth, shining surface of the cyst recognized. No adhesions being found the cyst was punctured and two and a half gallons of slightly turbid white liquid drawn off. The sac was easily withdrawn. The pedicle was about two and a half inches broad and ligated with a chain ligature. The stump was cauterized with pure carbolic acid. The left ovary was examined and found to be undergoing cystic degeneration, so it was removed. The incision into the abdomen was closed and dressed as in the other case.

Following the operation there was some shock, which was easily overcome by the administration of strychnin hypodermatically, and normal salt solution by enema.

The evening of the same day and during the following day the patient complained of pain in the parotid glands. The third day was begun by menstruation, which lasted four days. The evening temperature on the fourth day was 102½°F., pulse 100, respiration 20. Muriate of quinin and urea grs. 3 every four hours was given hypodermatically, and in a few days the temperature reached normal.

The stitches in the abdomen were removed the eighth day, that is, at the first dressing, the wound having healed by primary union.

Discussion.

Dr. J. P. Runyan, Little Rock, Ark: Results in this operation are very good, and there is no reason why they should not be in uncomplicated ovarian cyst, where the operation is a very simple procedure. When an ovarian cyst is permitted to run on too long, it frequently leads to a serious condition, especially when the pedicle becomes twisted. (The speaker detailed a case in which an ovarian cyst had been mistaken for a fibroid tumor, but when the operation was performed it was found to be an ovarian cyst with twisted pedicle

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and the patient came very near to losing her life from shock, which was due to both condition and operation. He also referred to another case in which upon examination tenderness was apparent, but a discriminating diagnosis was impossible, there being a question as to its being one of three conditions—ectopic gestation, pus tubes or ovarian cyst with twisted pedicle. On opening the abdomen the tubes were found filled with pus, which was the least suspected condition.)

Dr. T. K. Prewitt, Grand Junction, Tenn.: In 1875 I had a case of a negro woman who had suffered with a cyst for a number of years. An operation was advised, but the patient refused same. At times she had considerable fever. She was blistered, and treatment to keep down the fever was administered. The cyst continued to grow until two years ago, when it ruptured with a free discharge of pus. The woman is now quite well.

Dr. Tate, closing: I agree in the opinion of the simplicity of this condition. History in these cases could not be relied upon. The condition found is not always similar to that mentioned by me.

FEBRIS INNOMINATA.*

BY J. H. PRESTON, M.D.
HUMBOLDT, TENN.

I WISH to say at the outset that I am not a believer in a new or nameless fever; neither do I believe in the so-called typho-malarial as a distinct class of fever, but I do think it possible to have a typhoid, with malaria as a concomitant but not a blending. Da Costa has suggested malarial-typhoid to designate this condition. We have to do mainly with two idiopathic or essential fevers, viz., typhoid and malarial, and I am firmly convinced that the fever so much written about and so much discussed is one of the two, but which of the two? I do not believe all is typhoid that is so called, and will endeavor to give you my reasons.

I see no reason why typhoid fever should have so much changed or modified its form until it is so unlike what older writers or practitioners saw that they would not recognize it by its clinical features. I grant you that the management or treatment has been greatly improved upon, and that through the teachings of bacteriology and the microscope we know much more of the etiology. But, seriously, do the true and typical cases get well much sooner?

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For the first ten or twelve years after graduation I practiced among the foothills of East Tennessee, where they still have typhoid fever in its "pristine glory," if such a term may be applied to this foe of mankind. I shall never forget my experience with typhoid fever in those days.

During six years I practiced in the southern portion of Middle Tennessee, where I met with the same class of fever that I have encountered in a four years practice in Humboldt, Tenn., and while I have occasionally had cases that I felt sure were typhoid, yet I think nearly all were some form of malaria. Those running a long and continued course I am in the habit of calling continued malaria, or estivo-autumnal, and I believe correctly.

Now this brings us to the specificity of quinin. Some of our best men hold that a fever not septic, and not yielding to quinin, is typhoid. I do not fully accord with this idea. I admit, and fully believe that if we have a specific in anything, it is quinin for malaria.

But does a specific always cure? Mercury and potassium iodid are a specific for syphilis, but some cases are not cured. Antitoxin is a specific for diphtheria, and some of our cases die. So do some of our malarial cases; others run on and on indefinitely.

Now I do not know why this is so, nor have I found a sufficient explanation by any authority. To say that if the fever does not yield to quinin in six or eight days it is typhoid or something else, is not sufficient. Some authorities say remittent fever may run from seven to fifteen days. Why not twenty or more?

I will here call your attention to a few cases that I have treated within the last few months, none of which had any of the clinic signs of typhoid, except the continued fever, and that wanting in the cyclic character of typhoid. I do not give a history of each case, but only give the age of the patient, and the number of days that the fever continued:

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No. of case.	Age of patient.	Continued length of fever.
1	35 years	15 days
2	22 "	12 "
3	30 "	10 "
4	40 "	8 "
5	26 "	10 "
6	18 "	31 "
7	18 "	28 "
8	9 "	24 "
9	28 "	14 "
10	22 "	52 "
11	40 "	20 "
12	15 "	12 "
13	55 "	10 "
14	30 "	8 "
15	22 "	20 "

None of these cases had diarrhea, tympanites, or rose spots; neither did any of them have delirium or any great nervousness, and all of them recovered except the one whose fever ran fifty-two days. None had the prostration and muscular tremor, or subsultus tendinum, that I have almost always observed in typhoid fever. Neither was there a red or brown and dry tongue at any time present.

I did not regard any of these cases as typhoid, yet they are a type of most of our fever cases which are by many called typhoid. In their treatment quinin was pushed to full cinchonization, and so maintained for days at a time. Hence I do not think it can be said of any of them that the anti-malarial treatment was at fault. Certainly not as regards the specific. Two of them were made test cases with reference to quinin as a specific. One continued its course for thirty-one days, the other twenty-four days, closing out the last four or five days as an intermittent, which was also true of nearly all these cases.

I treated a few years ago two cases, both young men, one eighteen, and the other twenty-two years of age, the fever running in each forty-five days, and each made a good recovery. One of these young men had a keen appetite throughout the attack—a very strange symptom for typhoid fever, when we know that anorexia is one of the leading symptoms. He could always change his position in bed voluntarily; this,

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however, is common in most of these cases. We also know that the dorsal decubitus is another sign of typhoid.

The other young man had, to me, a peculiar phase of *this* fever, whether it be typhoid or malaria. He had a large, broad tongue, showing prints of teeth all around, moist and slightly coated. The most peculiar feature, however, was his temperature and pulse rate. Frequently I found him with a cool, moist skin, pulse smooth and regular, sixty beats to the minute, and without the thermometer would have declared him clear of fever, but the thermometer would register 103°F.

I have never, in this class of fever, found the typhoid triad, yet have searched diligently for it. I have frequently found an enlarged spleen, but have just as often found it difficult of palpation, if at all.

Now I know that some, and perhaps many, are ready to say that the microscope or the Widal reaction will clear up the diagnosis in most, if not all of these cases. I desire to say that I so believe. And I further believe that it is only a question of time when we shall be able to differentiate and properly classify all fever, and not have to use such vague and indefinite terms as "X fever," "slow fever," etc.

But I believe we shall need more than the Widal reaction, useful as it is, for we know that it has its limitations. I further believe that we shall have to have more than the finding or not finding of the malarial plasmodium, and of course the laboratory will have to do this, just as it has told us about all that we now know of this fever.

I believe that further laboratory research will demonstrate that we have true typhoid, separate and distinct from what is now often called typhoid. I believe it quite probable that we have a toxemic cause for some of our cases of continued fever not yet explained; that it is possible that a toxin is evolved or generated by the bacteria or parasites, and that it exists or circulates in the blood long after the bacteria themselves are killed, or that the débris of their dead bodies continues indefinitely in the blood, and hence the fever, an effort on the part of nature to rid the organism of the poison.

This may appear far fetched, and perhaps wholly wrong, but it seems to me as plausible as some other theories that I have been unable to understand.

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It is not my purpose to say much of the treatment, for I have nothing new nor of special efficacy to suggest. I will only say that I use more or less quinin throughout, for I find that the temperature runs higher when the quinin is left off.

I have noticed in fatal cases what seemed to be a striking difference in the manner of approaching dissolution. In typhoid fever there is greater prostration, the patient seems to pass away without knowing or caring whither he goes, a peaceful termination of his long-continued state of lethargy; unless he dies from intestinal perforation and resultant peritonitis. But in nearly all deaths that I have seen in the class of fever under consideration, there has been a clear mind up to death's door, with a watchful and anxious interest by the patient in the outcome of his case, with the frequent query, "When will I get well?" etc., and at the last there is a great restlessness that it seems impossible to quiet by any means whatever. I have seen this often, and have never been able to explain the condition, unless it be that the nervous system had succumbed to the intoxication to such a degree that it was impossible to get further elimination, because the patient does not seem to die from asthenia, but is simply overcome by something.

As before stated, I am aware that the microscope and laboratory must be the means by which we are to be extricated from the maze in which we have been so long floundering, but it is going to be a hard matter for the general practitioner to meet the necessary expense of procuring a sufficient laboratory outfit, as well as to spare the time for making the blood test in each and every case of fever. While I heartily wish that it may soon be made possible, I am afraid we are yet a great way from a general application of this much-needed means of diagnosis.

I believe the more feasible plan will be to get the people educated to the point where they will be willing to pay a reasonable laboratory fee in order that the physician may have the blood test made by a competent man who gives his time to such work. Could we get this practice universal we could then have a sufficient number of men with their laboratories located at easily accessible points for all this work.

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This is a problem which we are all anxious to have solved, for upon it depends a great deal of happiness and comfort to our clientele, unbounded satisfaction to our profession, and another grand climax to scientific investigation.

SURGERY OF THE BRAIN AND THE APPENDIX,

With Report of Cases.*

BY E. M. HOLDER, B. Sc., M.D.
MEMPHIS.

Assistant to the Chair of Principles and Practice of Surgery and Demonstrator of Anatomy, Memphis Hospital Medical College; Visiting Surgeon to City Hospital, and Consulting Surgeon to Shelby County Poor and Insane Asylum; Visiting Physician to St. Joseph's Hospital, and to Home for Aged Women; Late Surgeon Dutch Merchant Marine Service.

THE history of surgery, like that of empires, is replete with revolutions. It is a progressive science, and these revolutions simply typify progress. What was thought to be a great achievement yesterday is but the debris of abandoned lore today. Surgery is by no means a new science. Its literature is as vast as are the waters of the sea. But to discuss surgery in its entirety is not my intention.

Realizing as I do that the time of this association is limited, I have not the temerity to inflict upon you a review of the history of surgery or even to discuss the bacteriological analysis of star dust, but prefer instead to report briefly a few cases in my practice which I believe to be of more value to a working association of this character than a lengthy and technical discussion of some abstract subject. In this I have acted on the principle laid down by Oliver Wendell Holmes more than half a century ago—"It is by notes of cases rather than by notes of admiration that we must be guided when we study the revised statutes of nature."

By way of preface it is my opinion that in modern surgery, where aseptic sutures are aseptically applied in aseptic wounds, the danger lies not in the operative procedure but in the conditions produced by the disease or injury demanding such interference.

*Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 19, 1901

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The following cases, which have recently been under my care as private patients or in the service of my wards at the City Hospital, offer some points of interest, which suggest this report.

Surgery of the Brain.

Case I. Fracture of the skull. John W., aged 24 years, married, of healthy parentage, had enjoyed previous good health. Became involved in a difficulty and was struck by his adversary with a pistol, the cylinder of which inflicted an insignificant-looking wound about two inches in length in the right temple, about over the fissure of Sylvius. The scalp wound did not penetrate entirely to the skull, and the periosteum was not broken, but the injury to the calvarium underneath was considerable. The patient after being struck transacted some business and walked about two miles home. He was met by members of his family, who seeing that he had been drinking attached no importance to his apparently trivial injury. About three hours after his arrival at home he became unconscious, showing conclusively that intracranial hemorrhage was going on and that the formation of a clot was impairing the function of the brain. Two days later, which, owing to poor transportation facilities, was the earliest possible moment that he could be removed, he was brought to Memphis by Dr. J. N. Cliatt, of Laconia, Ark., who upon his arrival here placed him in my care. The patient's condition was then as follows:

He was in a profound stupor, consequently muscular coördination was wanting. Temperature in axilla $101\frac{3}{5}$°F, hearing, smell and taste subjectively *nil*. There seemed to be no paralysis, but owing to his profound coma, the prick of a pin was not felt and the question of paralysis was thereby to a degree obscured; knee jerk, ankle clonus and Achilles tendon reflex were not tried. Pupils were unequally dilated and responded but slightly to light. He could not utter a word.

The head was shaved, thoroughly scrubbed and enveloped in a dressing of absorbent cotton saturated with a one to two thousand sublimate solution to await operation. The usual semilunar flap with its convexity directed downward and backward for drainage was raised and the fracture exposed. Bleeding from the scalp was controlled by hemostatic forceps. The injury to the skull was found to be alarmingly extensive. A circular fracture was found about two inches in diameter, and the central disc of bone was broken into several fragments, and these fragments were depressed, and consequently were exerting pressure downward upon the brain. There were

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several linear fractures radiating from the periphery of the fracture injury above described. By means of a gouge and mallet these spiculæ of bone were removed. The blood clot at once protruded from the opening, but was with great difficulty removed. It was finally removed, however, with the exception of that portion which lay in direct contact with the dura mater, which had become organized during the seventy-two hours which had elapsed since the injury. It was found impossible to remove this without doing violence to the coverings of the brain. The hemorrhage, as you have observed, if you have followed me closely, was extradural. The clot occupied a space seemingly about as large as an orange. That portion of the brain lying immediately underneath the clot had been pushed back and was practically filling the space which was rightly the property of the hemisphere of the opposite side. After removal of the clot I introduced my hand into the cavity and could easily carry the fingers around to the septum dividing the two hemispheres. Apparently the tension was so great on the right optic nerve that I feared a rupture of its cerebral fibers. After removal of the clot the resiliency of the brain soon provided for the reoccupancy of its calvarian citadel.

The brain cavity was irrigated with a sterilized three per cent. borated solution. A broad strip of sterilized iodoform gauze was then introduced for a twofold reason, first to secure drainage and second to prevent further hemorrhage. The flap was partially closed with interrupted silk worm gut sutures, leaving room for drainage; an outer antiseptic gauze dressing was then applied. As soon as the patient recovered from the anesthesia evidence of returning consciousness was apparent.

The following morning the temperature was 99⅘° F. by the mouth, pulse 102. He was almost entirely rational, but was still slightly confused about his surroundings. At 4 P.M., twenty-four hours after the operation, the temperature was normal and pulse 90. A saline cathartic had been given and the bowels had responded promptly to its influence.

From the time of the injury until the clot was removed the bladder had at intervals involuntarily emptied itself. Promptly after removal of the clot it was noticed that the urine was voided voluntarily. The patient made an uneventful recovery and was discharged from the hospital about two weeks later practically well.

Case II. Fracture of the skull. William G., aged 28, laborer. General health excellent. A short time ago, while working in a gambling house in this city, he was struck by an

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adversary, at a point about over the occiput with the cutting edge of a hatchet, the blade passing through the scalp and through both tables of the skull down to the dura mater. There were no cerebral symptoms. The patient was sent to the hospital at an early hour on the morning of the accident, by the police department, and before I could see him, he decided he was not much hurt, and without the advice or knowledge of the house physician left the hospital—probably as much from the fact that he feared criminal prosecution as from his decision that his injury was of no consequence. About 11 o'clock on the same day, however, he returned to the hospital, and was at once prepared for operation. As usual the head was shaved and a bichloride fomentation applied over the site of injury, which was left there until the patient was operated upon shortly thereafter.

A horseshoe incision was made down to the skull, and the flap, including the periosteum, was dissected back. The spiculæ of bone were removed and the sharp ragged edges of the fracture were chiseled off. The skull was not depressed and fortunately there was found to be no rupture of the membranes of the brain. The wound was thoroughly cleansed, the flaps adjusted and sutures introduced. A strip of sterilized gauze was used for drainage, and the patient was returned to bed. Twenty-four hours later the temperature was 100⅕°F. As there was no infection I believe this to have been a traumatic or surgical pyrexia. The patient was discharged from the hospital in about ten days with all functions normal.

I attribute the favorable outcome of this case not so much to the surgical interference as to the fact that the wound at the time of the injury and subsequently escaped infection.

In a paper on brain surgery, which I read before this association at a former meeting, I took occasion to incorporate some conclusions which appealed to me at that time and which my subsequent experience leads me to advocate more strongly than ever. Therefore, with your indulgence, I will repeat in substance those conclusions.

1st. No injury to the head, however slight to outward appearance, should fail to receive the closest scrutiny. No scalp wound should be closed until the surgeon is absolutely certain that no fracture exists. The scalp is so movable that it often slips downward from the force of the blow, to return to its original position when this force is removed, thereby

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covering the seat of fracture. It therefore not infrequently happens that the fracture will be found at a point some distance from the scalp wound, thereby escaping the notice of the medical attendant, and is only disclosed when a flap of the skin is turned back. The immediate result of such a fracture might not give rise to serious symptoms, but if neglected, at some future period, it in all probability will cause trouble; and as an exploratory incision is not to be regarded as to any extent adding to the danger of the original lesion, and as it can be made with perfect safety, it is to be recommended in nearly all cases.

2nd. Wounds of the skull may be regarded always as fractures until proven otherwise. The rule in cases of this nature is ironclad, to explore whether there be any positive brain symptoms or not. The doctrine that fracture of the skull without marked symptoms requires no operative interference should be held responsible for many of the unfortunate sequels of head injuries. The slightest imaginable depression, save in one or two localities, will in all probability encroach upon the dural nerves and cause more or less irritation; this will eventually be propagated to the meninges and subsequently to the cortex and brain ganglia, until finally one of the many dire results will occur. If therefore the profession would accept the principle that practically all fractures of the cranium, irrespective of pressure symptoms—or rather that all injuries of the head, irrespective of pressure symptoms—were proper subjects for exploratory operation, traumatic epilepsy and other sequelæ would be rare affections.

3rd. Quoting from a recent authority on surgery: "To sum up the matter, in any fracture of the vault, simple or compound, in which there are symptoms of intracranial mischief, it is proper to incise the scalp and trephine. If there are no symptoms pointing to intracranial mischief, but there is marked localized depression, from which we should infer the probability of either immediate or remote ill consequences, we should trephine. If, however, in a simple fracture, there be no decided depression and no brain symptoms, the expectant plan may be pursued."

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Surgery of the Appendix.

I have recently operated upon five cases of appendicitis. The first, second and third cases were appendicular abscesses, of which one wall was the parietes. These cases were cured by incision and drainage, without entering the peritoneal cavity and without removing the appendix. One of these cases is of more or less interest, however; therefore I will call your attention to its symptomatology by a briefly detailed report.

Archer Matthews, colored, male, aged 25 years, presented the following symptoms: A well-defined tumor in the region of the appendix, pain, great tenderness and rigidity of the muscles in lower right quadrant of the abdomen. Temperature 103⅕°F., pulse 100, bowels constipated. Gave history of having had one previous similar attack. A diagnosis of appendicitis was made and an immediate operation advised, which was accordingly performed without delay. An incision was made over the tumor, about three inches in length, and an appendicular abscess was found and evacuated. The appendix had sloughed off and the head of the colon, which could be plainly seen at the bottom of the abscess cavity, was covered with a thick deposit of lymph, it was highly congested and at places ulcerated almost through. The abscess cavity was carefully cleansed with sterilized gauze, caught in the grasp of a pair of dressing forceps, it being thought best not to irrigate the cavity. Long strips of iodoform gauze were carefully packed down to the bottom of the cavity and the abdominal incision was left open. This dressing was changed once daily. About three days after the operation a fecal fistula developed, through which all the feces were discharged. This continued for about ten days or two weeks, finally closing spontaneously.

The patient whom I present to you today still has a sinus which marks the tract of the old fecal fistula. It has been some time since a discharge of feces has been observed, and I believe in the course of a short while the sinus will close. The patient has gained thirty or forty pounds since the operation and his general condition is excellent.

The fourth case, which from the history and symptoms was presumed to have been appendicitis, came under my care by the kindness of Drs. Witherington & Walker of Munford, Tenn. Her temperature was 102°F., pulse 110, with violent colicy pains, nausea and vomiting. There was a well-defined tumor in the region of the appendix and great tenderness and rigidity of the muscles in the right iliac region. She also gave history of at least one previous attack. There was a line of

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absolute dullness or rather flatness extending from the lower margin of the ribs downward to a distance about an inch below McBurney's point, which was the only confusing symptom in the diagnosis of appendicitis. An exploratory incision about three inches in length was made over the tumor.

Upon opening the abdominal cavity the liver was found to be displaced downward, extending nearly to the brim of the pelvis, highly congested and boggy to the touch. The tumor developed to be liver substance pushed forward by the right kidney, which lay immediately behind, it too being a little lower than its normal position. The inflammatory process which had been going on for some time had resulted in the development of strong adhesions between the posterior surface of the liver and the omentum, intestines and appendages lying adjacent thereto. After searching for some time the appendix was located and after breaking up some of the adhesions I was able to deliver it without much difficulty and without much violence to the surrounding tissues. It was found to be congested and a participant in the widespread inflammatory condition which prevailed. A silk ligature was thrown around the appendix and it was removed. Search was then made for an hepatic abscess, by introducing an aspirating needle in several directions into the liver through the abdominal incision, but no pus could be located. The wound was closed in the usual way without providing for drainage. In forty-eight hours the temperature was normal and the pulse 80. She is now up and doing her house work with little or no discomfort.

The fifth case was also placed in my care by Drs. Witherington & Walker.

F. C., aged 35 years. Family history good. When I saw him at his residence near Munford, Tenn., his pulse was 100, temperature 103°F. A distinct tumor accompanied by great and well-defined tenderness at McBurney's point, nausea, rigidity of the abdominal muscles and colicy pains were the immediate symptoms presented. A diagnosis of appendicitis was made and an immediate operation advised, which was accordingly done, as follows:

An incision was made over the tumor, and after protecting the abdominal cavity with sponges, the tumor was incised and about six ounces of pus evacuated. The appendix was found to be gangrenous with several perforations. It was ligated close to the colon and removed. It was not thought advisable to irrigate nor to close the abdominal incision. The cavity was swabbed out with pledgets of sterilized gauze and a glass

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drainage tube introduced. Forty-eight hours after operation the pulse and temperature had dropped to normal. Two weeks later the patient had some pain in the region of the bladder which lasted a day or two, accompanied by a slight rise of temperature and followed by a discharge of pus from the bladder, which indicated clearly to my mind a perforation of the bladder wall and a discharge of pus through this route from a pocket which was not drained through the abdominal outlet. Upon the discharge of this pus the symptoms subsided, and complete recovery finishes the story.

This case is of interest because of the unusual route selected by nature for the discharge of the pus. When I consider the extensive destruction of tissue at the time of operation and the fact that the abscess cavity was directed downward and backward in the direction of the bladder, it is apparent that in all probability the bladder wall was involved extensively prior to the operation, and its subsequent rupture might be no less unexpected than the ebb and flow of the tide.

In the short time allotted to me for the reading of this paper I cannot enter, as I should like, into a discussion of the etiology, pathology and symptoms of appendicitis, but suffice it to say that such details are not what I am most anxious to impress upon you; it is the all-absorbing question: How shall we treat appendicitis? I answer, surgically.

McBurney says, "Every case of appendicitis is liable sooner or later to demand surgical interference for its cure. The number of physicians regarding appendicitis a surgical disease is rapidly increasing, and those who claim that some attacks yield to medical treatment are utterly unable to select, in the early stages of the disease, the cases which they have confidence in treating by medical remedies."

Park's Surgery by American Authors says, "Excluding death from certain zymotic diseases, deaths from appendicitis far outnumber those occurring from any other abdominal lesion, and by far it is the most common cause of peritonitis in the male and a not uncommon cause in females. Treatment of appendicitis depends first upon the period at which the disease is recognized. Without doubt the best treatment, could it be applied in the first hours of the disease, would be immediate exploration and removal of the appendix."

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Da Costa says, "Appendicitis is almost invariably the primary lesion of all those conditions known as typhlitis, perityphlitis, paratyphlitis, etc., terms which are no longer employed—pathological entities, and are in most instances well relegated to obscurity. If the case were seen at the very start by a surgeon, immediate operation in every case would be eminently proper. If this plan could be followed the mortality would be exceedingly small. At this early stage the peritoneum is free from infection and the operation can be rapidly and easily performed without risk of infection to the peritoneum."

The American Text Book of Surgery says, "The treatment in recurring appendicitis, catarrhal and ulcerative, by laparotomy and removal of appendix either during an attack or after the acute symptoms subside, has been placed on a sound surgical basis by McBurney, Senn, Treves, et al., and that the ulcerative, gangrenous and perforating are surgical affections and should be treated as such."

Wharton & Curtis, while not so pronounced on this subject, state that absolute recovery is not always obtained in those cases which are supposed to have recovered under medical treatment, as fecal fistula may result from bursting of abscess externally; likewise into the bowel. Or pyemia may develop even after they have discharged themselves into the bowel, and in many cases recurrence takes place and then general peritonitis requiring immediate operation, unless prostration be so great that it would certainly cause death.

Roberts in his Modern Surgery says, "Appendicitis is a surgical disease, and a physician essaying to treat the disease without a surgical colleague should have a considerable knowledge of surgical diagnosis so as to be able to recognize in a moment when an operation is required. The first requisite in the successful management of the disease is its prompt recognition, so as to be on the safe side."

He says all doubtful cases should be regarded as probable appendicitis and given a careful supervision. If the attack is accompanied by severe local and general symptoms at the onset operative treatment is demanded. If in a mild case severe symptoms suddenly arise, immediate operation is imperatively demanded. When an attack of appendicitis recurs in cases

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in which the organ has not been removed, it is wisest to excise the appendix after the second or third attack, even if the inflammation be of a mild grade.

Keene lays it down as a rule that even in mild cases that are ordinarily convalescent, if the indications point even slightly toward pus, an early operation should be done. If pus is present the propriety will be denied by none, and absolutely a simple exploratory operation with all the antiseptic precautions of modern surgery is so far from being dangerous that no patient should be allowed to run the risk of probable rupture and general peritonitis. An exploration carefully done is less dangerous than the disease.

Fowler, an acknowledged authority on this subject, says, "As soon as the diagnosis of progressive appendicitis is assured the abdominal cavity should be opened and the appendix removed. If opium has been given and the progressive character of the case in hand is doubtful, it is better to err on the side of safety and remove the appendix at once. To operate too early may be to operate unnecessarily, but this is always preferable to operating too late and hence unsuccessfully."

Mynter believes the disease of bacterial origin and exclusively surgical.

Deaver says that the medical treatment of appendicitis is no more than high grade Christian Science, and that the only rational treatment is the aseptic scalpel in the hands of a skillful surgeon.

Dr. Wyeth says, "The disease is strictly a surgical one, and the mortality would be 50 per cent. less in cases operated on by a surgeon who knows what practical asepsis and careful technique are, than the mortality if treated without operation."

Joseph Price says, "You should lose none of your cases of appendicitis if recognized early and promptly operated upon."

Dr. Smythe says, "My experience has convinced me that a patient suffering with appendicitis is given the best chance for his life by operation, and that the operation should be performed at once after the diagnosis is made, provided the case is seen within the first twenty-four hours of the attack. After the lapse of twenty-four hours the proper time for operation must be determined by conditions, and no rule can be laid down in

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an essay or a textbook that would prove of much benefit to a surgeon at the bedside."

Dr. Murphy of Chicago, whom we are honored by having as our distinguished guest today, says, "The operation should be performed as soon as the diagnosis is made, as we cannot differentiate in the early stages which cases are going to be favorable, and as the earlier the operation is done the less the danger and the easier the removal."

Again the all-absorbing question stands up before us like a sphinx: How shall we treat appendicitis? Again I answer, surgically.

Discussion.

Dr. John B. Murphy, Chicago: I feel a little guilty in discussing the subject of appendicitis, as I have discussed it so frequently, and you are doubtless familiar with the position which I take in this disease; but I cannot let this opportunity pass without complimenting Dr. Holder, first on his general paper, and particularly on his article on cerebral surgery, which is the part of paramount interest. The point he has made, of prompt action in cases of injuries to the brain, in hospitals and places where patients can be treated with ordinary aseptic precautions, is very well taken. This phase of surgery has been outrageously neglected. The result is that we have insane asylums in which a large percentage of the patients are there because of the mismanagement of early traumatic cerebral lesions; and the rules which the Doctor has laid down are so very practical that I will not mention more than to emphasize them, and impress on every practitioner that every time he has an injury to the brain that is followed by unconsciousness, or partial unconsciousness, he has a serious condition to deal with, regardless of the patient's subjective symptoms. Sometimes a fracture of the skull recovers without surgical intervention and without cerebral manifestations, but in the young we have to look forward to the time when such patients will become epileptic or show other cerebral manifestations. I have been much impressed by the large number of cases which are presented in the hospitals with epilepsy, and finally, as the disease advances, are sent to the asylum with insanity. The time may be long, but they arrive. Let me cite one case that is in Mercy Hospital at present. I have operated for the third time. The patient, a young man of 18, ten years ago received a head injury. He had a depressed fracture of the skull; he was unconscious for two weeks after the accident; at the time he received no surgical treatment; he recovered fully from the injury, and was as bright as any boy of his years. Some two years after the injury he began to have mild headaches; the following two years the headaches became more severe, on and on, until his headaches incapacitated him for school or office work. July last he had his first convulsion; it lasted twenty minutes; in three weeks a second, and one week later three convulsions in a single day. The operation showed a depression at the seat of the fracture; an adhesion of the dura to a sharp spicula of bone that projected into the brain; there had been an extensive laceration of the dura, as shown by the adhesions,

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and a portion of the dura protruded through an osseous fissure, and was adherent to the extra-cranial tissues; there was no cyst sub-dural. The removal of the depressed fragment of bone relieved the patient immediately from his headache and convulsions. I think it was for four months he had no symptoms, when he had a return of the convulsions, and they became very frequent. Dr. Lemke, in my absence, re-elevated the osteoplastic flap and tapped the ventricle. This again relieved him for six weeks, when the convulsions returned with their usual intensity. The osteoplastic flap was again elevated; the dura was found to be three-eighths of an inch thick all over the operated field; a circle of dura one and a half inches in diameter was dissected out and separated from the underlying piamater and removed, and the bone flap replaced. Convalescence uninterrupted. The convulsions have not returned.

We know very little about epilepsy. We know very little about the nerve supply to the dura; but from a clinical standpoint, and from a practical standpoint, we think mild and constant irritation of the dura tends to the production of epilepsy. No matter what the theory may be, the practical fact remains the same. Whenever we have a fracture with depression of the internal table, or adhesion of a lacerated dura, in the young, we are likely to have epilepsy follow. Therefore I think the Doctor should be especially complimented on bringing out the point of immediate action whenever the patient has had a fracture with unconsciousness, regardless of the external manifestations of depression.

As the time is so limited, I will just say a few words about appendicitis, and I wish to speak of it as a practical subject, from the general practitioner's standpoint, and not from the standpoint of the specialist.

My first work with appendicitis began when I was a general practitioner, March, 1889. I made the first operation for appendicitis, in its modern sense, on the second day of March, 1889, which I believe was the first in America where operation was made in the absence of phlegmon, with the idea of traversing the peritoneal cavity to open the abscess and remove the cause, which in this case was a fecal concretion. Perityphlitic abscess with phlegmon had been operated by Bell, Gay, McBurney, Weir and others, and Kraft had reported eight cases operated in Lausanne, in which there had been no phlegmon. It was the common practice at that time to treat them for peritonitis, or perityphlitis and diseases of that kind, which resulted from a lesion of the appendix. We have patients dying from these lesions every year. We do very frequently in Chicago, especially, have the death certificate with the diagnosis of appendicitis—two hundred and eighty cases in the last year. We are still having deaths, and I believe they are not necessary. Therefore, while we recognize, theoretically, that catarrhal appendicitis can exist, it is not practical appendicitis; but you, gentlemen, you general practitioners, do not see cases of catarrhal appendicitis. You just think they are catarrhal because they are mild cases. I think in something like sixteen hundred cases that I have operated, I have seen but two catarrhal cases.

When we originally spoke of treating appendicitis from a surgical standpoint, we made this contention: That it was a suppurative disease, and when pus is present it should always be operated. Pus is always present when the case comes to the doctor.

Another proposition: The appendix practically always perforates when the

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case is severe enough to demand the attention of a physician. I mean by perforation that the lesion gets beyond the boundary of the wall of the appendix. It always forms a circumscribed abscess, or produces a general peritonitis as a consequence of that perforation. In the enormous percentage of cases, fortunately for us, it is the former.

If we are going to treat it surgically, we should attack it while the infection is circumscribed by the wall of the appendix, knowing from its general course that in a short time it is going to pass beyond these bounds.

The proposition comes to us, when will we treat the disease if we are going to be of the greatest service to the patient? It is true in the medical profession, as well as in every other profession, that its intelligence is far in advance of its popular practice, and this appendicitis subject seems to me now to have attained the stage where its popular practice should come up to its intelligence, because it is such a common peril and too frequently fatal.

In treating appendicitis we have three things to keep in mind: First, the pathology; second, the relation of pathology to symptoms; third, the relation of pathology and symptoms to time. That is all.

Can we tell from the outset what the pathology is? Can we tell at a given time, with given symptoms, what the pathology is? Can we tell at any time in the disease, with exactness and with certainty, what disease the patient is suffering from? When can we tell? At what time, I mean, can we make that diagnosis with the greatest certainty? The diagnosis of appendicitis can be made, from a practitioner's standpoint, not from a surgeon's, because the surgeon sees the patient later, within twenty-four hours after the onset of symptoms. The every-day practitioner can make his diagnosis better within the first twenty-four hours than at any other time. He can make his diagnosis by basing it on a few cardinal symptoms that are uniformly present, and, not only uniformly present, but present in a uniform order. It is not the symptoms alone, but the order in which they occur, that is important in making a differential diagnosis of acute abdominal lesions. These symptoms, in their order, are: (1) Severe abdominal pain, usually referred to the epigastric region and colicy in character and persistent; (2) nausea and often vomiting. This comes on from three to eighteen hours after the onset of pain, and lasts but a short time, rarely exceeding one effort at emesis; (3) pronounced local sensitiveness to pressure over the location of the appendix, wherever that may be, either on abdominal or rectal palpation; (4) elevation of temperature, from 99.5° to 105°, the average being 101° to 103°. The rise of temperature begins from eight to twenty hours after the onset of pain. It is always present in the beginning; it occasionally, suddenly and completely subsides without the subsidence of the pathologic conditions.

Within the first twenty four hours the lesion is confined within the appendix. The pain is then spasmodic and irregular, and is due to over-distension of the appendix. The primary nausea and vomiting are reflex. The primary sensitiveness to pressure is from the over-distended appendix; the secondary is due to the circumscribed or general peritonitis, due to the infection of the appendical mucosa, and to the retention of the products of the infection within the appendix, this pressure favoring absorption. The temperature in appendicitis never precedes the pain, and when you have a case where you know there has been a temperature preceding the manifestation of pain, you can conclude

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that it is not a case of appendicitis. I have seen altogether seven cases where the temperature preceded the pain. In the first three I knew the temperature had been present, and the other symptoms were there in regular order. I operated on these three and found the appendix large and swollen, looking very much like a snake that had swallowed a frog. In each appendix there was a typhoid ulcer, which accounted for the localized distension and for the symptoms of pain, nausea and vomiting and localized tenderness. They all recovered. In the last four I did not operate, and the cases went through typical typhoid courses, without abscess after the appendiceal symptoms subsided. What will happen when it is perforated will depend on whether adhesions have formed about it, or whether the perforation takes place in the general peritoneal cavity, or whether the appendix has become adherent to a coil of intestine, and the infection perforates its wall into the alimentary tract.

Within the first twenty-four hours, and I will advance another twelve, because, practically, for the first thirty-six hours the lesion is confined within the appendix, what can we do to guide the direction of rupture of this pus cavity, for the safety of the patient? Can we give any medicine to cause pus absorption? No; we have passed that stage in pathology. Can we give any medicine to retain it within a circumscribed area? No. Can we give medicine to lessen the liability of rupture? No. Among some recent and ancient theories in this connection, it was taught that the restriction of diet would favor circumscribing adhesions and lessen the liability to perforation. This is questionable, as peristaltic paresis is established by peritonitis, regardless of the contents or even the administration of drastic cathartics. Rupture into the bowel takes place in about 80 per cent. of the cases, and these recover from the primary attack. I say 80 per cent., and I wish to give the maximum in favor of recovery; still, twenty per cent. of the cases do not recover. Now, I have concluded from the analysis of the cases, that neither by starvation, by medicine, by blood-letting, by poulticing, nor by carthartics, can we influence the destiny of the pathology. Can we influence similar pathologic lesions on the surface of the body by medical treatment? No. Why not bring this suppurating and gangrenous appendix to the surface and treat it as though it was a surface lesion? If we did so, then all this folly in the way of treatment would soon disappear. If we could bring lesions of the artery, of the appendix, of the peritoneum, of the uterus, of the kidney and of the stomach to the surface for inspection and treatment, the medical profession would be relieved of many an error and many a foolish notion in the way of treatment.

Operating on a case of appendicitis when the pus is confined within the boundaries of the appendix has, in my opinion, produced a mortality of less than one per cent. I have never seen a death in one of these cases and I have operated as early as eight hours after the onset of pain. The one per cent. mortality is due to the occasional primary perforation of the appendix giving the first indication of the disease. That occurs where there is a fecal concretion and a gradual thinning of the walls to a rupture, or where there is a circumscribed gangrene without retention of the debris within the appendix, which perforates. These primary perforations will always cause mortality, and that is why I say one per cent. of them may die. And, again, the danger from primary perforative peritonitis is much less if a laparotomy be performed early. Why

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should we wait? What reward do we expect, knowing the pathology? It is now time that every man who has had experience in abdominal surgery should know when to operate. Can we tell from the early symptoms what the clinical course of the disease will be? No. Can we tell from the subsequent symptoms what the degree of pathology is? No; at least often not until the patient is beyond the possibility of rescue. With a loss of one per cent., therefore, if we take the maximum of recovery without the operation, which is 80 per cent., we have at least a loss of 20 per cent. of the cases of appendicitis. The maximum with early operation is one per cent., and we would say that by the timely operative and intelligent treatment of the cases, intelligent recognition of its pathology, intelligent recognition of its tendency, we can save in every hundred cases nineteen lives. That is more than we save in any other field of surgery.

Gentlemen, I thank you for your attention.

Dr. W. D. Haggard, Nashville, Tenn.: I feel that after the very eloquent discourse that we have listened to, with so much profit, interest and pleasure, that there remains very little to be said at my hands. However, the paper of Dr. Holder presents so many points of interest that it would be a positive discourtesy to allow it to proceed without very free and liberal discussion. On account of the time limit I will beg to dismiss the subject of cerebral injuries, to which he has directed our attention. The prompt action which he counsels will certainly save many patients that would be lost without it.

The cases of appendicitis are those that come home to every one of us. There is scarcely a family connection that has not lost one charming member of that circle from this dread disease. It has come to be a personal matter with many of us, and consequently from a scientific standpoint, we must look upon it with fear and seek that which is to offer us succor in time of dire distress. I believe the so-called medical treatment of appendicitis is just about as medical as the treatment of a broken leg.

I had a pretty little girl of eight years under observation last week. She had come under my care on the fifth day of a "mild attack," and she was doing well. She was about over this attack. That little girl, like many other cases "recovered"; but she is not well of the disease unfortunately. I will remove the appendix in two or three weeks. You doubtless recall the historic case who had twenty-five attacks of appendicitis. In his twenty-fifth attack it was of such a serious nature that he was advised, by Dr. Wm. Pepper, to be operated upon. Unfortunately he died. Twenty-five attacks and twenty-four recoveries from medicinal treatment; one death from surgery—same case. An operation in the very beginning of any one of these attacks, or in the interval between any two, would in all probability have averted the fatal issue.

The statement you often encounter daily is, "I know Mr. A., who has had one, two, or three attacks; he would not be operated upon and recovered." But who is going to guarantee that he may not have a recurrence which might jeopardize his life? It is well known that a large per cent. recur within a few months or years. Many acute cases in adults sometimes give a clear, frank history of one or more attacks years previously, perhaps in childhood. Deaver says that 67 per cent. of all the cases he has operated upon had had previous attacks.

In the interval between attacks if we could only operate on all those cases

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before the next attack, ninety-nine per cent. would get well. If we could operate upon them just before the perforation occurs, a large percentage would recover, but who is going to say when that perforation will occur? Dr. Fitz, of Boston, who has told us so much about the pathology of this disease, says: "Cases of appendicitis should be watched with knife in hand." Dr. Mixter, also of Boston, says of Dr. Fitz's statement, "I want to ask the privilege of changing just one word in that article. It is perfect, entire and complete, with one exception, and the word I would change is appendix for knife." It is so treacherous that we can never tell what an hour will bring forth.

The case detailed by Dr. Murphy brings to mind a case of a boy 12 years old who had had two attacks. His physician advised and insisted upon operation after the second attack, which was declined. He was brought to me and I gave him the same advice. Operation was refused. One night at 11 o'clock, about three weeks after the second attack, the boy was stricken with acute pain and vomiting. The boy's father did not send for me because he was afraid I would operate upon the boy, and he asked for somebody else. Another surgeon was called and said he would come in the morning. I had the boy's appendix out before morning. They sent for me at 2 o'clock, and when I arrived I found him with temperature of 102° at the outset, and pulse 120.

What did I conclude? That while that boy had been up and around two or three weeks, he had had appendicitis all the time, and I believed that right there and then it was perforated. Indeed, I must believe it, because when I operated upon him within five hours after the initial pain, I found the perforation. You know perfectly well that a beginning inflammation could not have terminated in perforation in those five hours. This low grade bacterial inflammation had remained latent in the appendix for days and weeks before the compression anemia plus infection resulted in necrosis. When a man is stricken with acute pain, it sometimes means that a symptomless process has been going on sometime before the perforation has occurred, which may be synchronous with the very beginning of symptoms. So that, if we had waited in that case for twenty-four, or thirty-six, or as some say, forty-eight hours, there would have been no use operating upon that boy. By immediate operation at midnight he was saved.

An arbitrary time limit of waiting for improvement before operation therefore, is misleading and dangerous. Apparent lack of severity of symptoms is also often deceptive. Another boy about the same age had temperature of 102° on the fifth night. Preparations were made for operation early the next morning. Upon arrival at the house temperature was 99°, pulse 98. The consultants urged postponement. Operation, however, was done, and a recent perforation found. The boy recovered.

I look upon appendicitis as I do upon diphtheria. We isolate diphtheria to prevent its extension to other throats. We should isolate the appendix to prevent the extension of infection to other tissues. The way to isolate it is in a clean, careful, surgical way. When you say operate as soon as the diagnosis is made, that is very good if the diagnosis is made early. If it is not made until the black vomiting of toxemia and general peritonitis sets in, surgery is unavailing, absolutely and completely. I believe it is unwise to operate upon those patients, but I have never felt unable to deny them their last and only hope, unless they were absolutely hopeless.

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I sometimes think if we would say, "It is too late; this patient is too far gone," and decline to operate, it would do the community more good than to operate, even as a last resort when it cannot save. The next man who has the diagnosis made early by the practitioner and operation proposed, will say, "Mr. B. was operated upon and died. I am never going to be touched with the knife." Whereas, if one or more well-nigh hopeless cases were declined, then such would say, "Mr. C. was not operated upon at the beginning and he died; I want mine out while there is time."

From the beginning you can never tell what they are going to do. Catarrhal appendicitis is an uncertain, alluring and dangerous diagnosis. They are nearly all of bacterial origin, and may perforate sooner or later. Catarrhal appendicitis may so quickly become perforative appendicitis that there is no use in trying to discriminate between them. You may have diagnosed a so-called case of catarrhal appendicitis day before yesterday; it may become a perforative appendicitis today, and the funeral occur day after tomorrow. How about your descriptive and discriminating diagnosis now? You might just as well call it day before yesterday, today, and day after tomorrow appendicitis.

It is appendicitis first and last, and appendicitis is an acute, infectious, exudative inflammation of the vermiform appendix, which is prone to perforate as the result of its pathology. If the morbid changes are not sufficient to produce necrosis, partial or sometimes complete resolution occurs. It has a tendency to lie dormant as a low grade infection and to reproduce acute attacks. The appendix, to all intents, becomes a test tube, and no treatment can sterilize that process. Resolution depends largely on the virulence of the infection and the local resistance of the tissues. There is little that we can do internally to modify the process. We can no more prevent a perforation than we can stop a cyclone.

There are two things, aside from the wisdom of early operation, that have come to me from a somewhat extensive operative experience in these cases. If you are not called to see the patient until an abscess is formed, I believe the position Dr. Holder has taken, to simply evacuate the abscess and drain, is correct. If the appendix is not in evidence, let it alone—do not search for it. If you do you are likely to break through the wall of adhesions limiting the abscess cavity and infect the clean peritoneum that nature has so carefully protected. The man will still have the appendix, and he may have other attacks. You know full well when you leave that appendix that in some instances the patient will decline to have it removed subsequently. That is not your fault, and you must not attempt a complete operation that incurs added danger because you know the patient may not have the second operation. It is the life you are after at the first operation. If he declines to have it operated upon when it is much safer, after you have saved him from immediate danger, then I feel that he should bear the burden.

In the early cases when pus is present, but not encapsulated, I do believe it is imperative to always remove the appendix, after thoroughly surrounding the field with a cofferdam of gauze, each piece carefully walling off a certain part of the cavity until the infected area is in a funnel of gauze that offers an efficient barrier to the access of any contamination to the peritoneum. This gauze should be left in place, and the wound left open. This is the secret of

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saving the worst type of pus cases that die by less thorough efforts at protecting the peritoneum, or less adequate drainage.

I believe that a man who has once had the disease is sitting over a powder magazine, and the cheapest and surest way to get life insurance is to have the appendix out; and one is foolish to go about with it in his body when it is likely to explode at any time.

The operation in the quiescent period can be done so successfully that I feel like urging those who have been fortunate enough to get over one attack to be operated upon in the period of greatest safety.

I believe that the reading of the paper and the discussion by Dr. Murphy has done great good in our section, and I hope it will be the means of saving many, many lives.

Dr. W. A. Evans, Chicago, Ill.: There is not a thing that I can say which would further clear the subject; therefore I will not take your time. I thank you very much for your invitation.

Dr. T. K. Powell, Dancyville, Tenn., in his characteristic humorous way, discussed appendicitis, but the reporter was so convulsed with laughter that he failed to get the speaker's remarks.

Dr. Alfred Moore, Memphis: I wish to compliment Dr. Holder on his most excellent paper and on his splendid results, and also wish to comment briefly on a few remarks made by the Doctor in his paper and by the distinguished gentlemen who have so ably discussed it.

The essayist brought out forcibly the fact that clean surgery, with clean material in clean hands, gives little or no mortality. He brought out still more forcibly the fact that it is the disease in most cases which causes death, and not the surgical operation. That is true, and I am glad it has been brought out so clearly. There is another fact, and that is, that appendicitis is a surgical disease, and I think the point that Dr. Smythe brought out in discussion of that subject some time ago is about the best that I ever heard — that is, that the one at the bedside, the one who is attending the case, is a better judge when to operate than anyone else. It is very hard to lay down an iron-clad rule, but nevertheless it is a surgical disease. Another point I wish to mention, and that is, in my experience I have very rarely seen cases of appendicitis in the negro. I was very much interested to see the case the Doctor presented here this morning. Appendicitis is certainly not as common an affection with the negro as it is with the white race.

Dr. Jere L. Crook, Jackson, Tenn.: After the discussion by my distinguished predecessors, there is very little for me to say. However, the first portion of Dr. Holder's paper, while not so interesting to the majority of the gentlemen of the Tri-State Association as the latter portion, yet those of us who live out in the smaller towns perhaps do really more operative work on the skull than we do on the abdomen; and from the remarks that Dr. Murphy has made, I feel that we may start out with greater courage and accomplish better results in our operations, having such distinguished backing as those gentlemen have given us today.

One week ago today I saw a negro, 16 years old, who had been struck on the left side of the head above the ear with a rock. He was unconscious for about

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thirty minutes, then came home, and had some difficulty in speaking for about ten minutes, and then became all right with reference to his speech, but his right arm was paralyzed. I found a suspicious bump over the ear at the temporo-occipito-parietal junction and a complete paralysis of the right arm, and told his parents I thought the only proper way to treat that injury was to cut in there, lay back the flap of scalp, and make an examination of the skull. I had the pleasure of reading a paper before this society a year ago in which I went further than Dr. Holder, when I stated that no man did his duty in an injury to the skull unless he made a diagnosis at once, that immediate operation should be the rule in all cases of suspected skull injury. This has been my policy since then, and so I told this man that such an operation would be necessary. The patient having been anesthetized and head shaven, I made a horseshoe incision down to the skull, the flap was laid back, and the periosteum was found to be injured, being torn in several places; this was removed from the skull, and the skull was found to be not injured at all. I allowed the boy's father to be in the room at the time, and told him that the operation thus far had been absolutely nil, it had done his boy no good whatever, and that he must allow me to go further. I told him that the internal table of the skull was probably fractured, which had resulted in an escape of blood from between the two plates, which had caused the paralysis of the arm. I told him unless he allowed us to go further and bore into the skull, we could do nothing at all. It was some time before he would consent, because he could see the bare skull for a space of three inches and no injury was apparent. Finally I told him I would throw all the responsibility upon him if he refused, and he then told me to go ahead. With a Devilbiss trephine I made an opening over the motor area for the right arm, enlarging it with the Rongeur forceps, and went right into a depressed fracture of the inner table of the skull. Through this small opening had exuded probably two tablespoonfuls of blood. This blood was directly over the center governing motion of the right arm, and had pushed the dura away from the skull, though the dura itself was not injured. After the blood escaped the operation was completed by stitching the periosteum over the opening in the bone, leaving a small opening through which a gauze wick was placed for drainage. He reacted promptly, and has had no temperature nor discomfort since. On the next day he had some motion in his arm, on the third day he had motion down to his wrist, and on the fifth day had motion in his fingers. On the sixth day (yesterday) he could use his arm perfectly, and could grasp my hand with a hearty grip.

I believe the general concensus of opinion is that fracture of the inner table, with no fracture of the outer plate, is a very rare experience, and consequently that is my excuse for reporting this case.

Dr. F. D. Smythe, Memphis: We have heard so much upon the subject of the Doctor's paper that I will consume but little of your time.

I wish to compliment the Doctor upon his most admirable and classical presentation of the subjects of cerebral injuries and appendicitis. It has been my custom to adopt the great truths outlined by the Doctor in his treatise on cerebral injuries.

With reference to the surgery of appendicitis, my position, whilst not so well known as that of our distinguished visitor, Dr. Murphy, of Chicago, is generally known in these parts.

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The Doctor has had just sixteen cases to my one of appendicitis. I have learned some points, I think, of practical value in the treatment of these hundred cases. And briefly and to the point, gentlemen, there is no excuse for a physician failing to diagnose an acute attack of appendicitis within the first twenty-four hours.

The symptoms are so plain that the wayfaring man cannot fail to recognize them. After eating a hearty meal, perhaps a patient who had previously been in good health, is seized with a pain in the region of the umbilicus, radiating over the entire abdomen, becoming localized in the right ileo-cecal region, or McBurney's point, with rigidity of the abdominal muscle, right lower quadrant increased upon pressure, not relieved after free purgation, necessitating the use of opiates to promote quietude, with fever, acceleration of pulse, right leg flexed upon the thigh, thigh upon the abdomen, is as pathognomonic of appendicitis as are the crepitant râle and prune juice sputa of pneumonia.

It is useless, gentlemen, for any physician to think he can influence the course of the disease by the administration of any medicine. It is not influenced at all, nor is the mortality decreased by any medical treatment; it depends entirely upon where the appendix points in the event of rupture, and not in the least upon the plan of campaign pursued if treated medically. If the appendix points to the outer side of the colon there is some chance of the pus being confined and walled off by adhesions. If it points toward the enteron or deadly zone, and rupture occurs, peritonitis follows, and death is inevitable with or without an operation. Perhaps an immediate operation will occasionally save one of this class. There is no use to operate in fulminating cases after the lapse of twenty-four hours from the onset. That man is dead, practically. An immediate operation offers him a hope of recovery. It must be done immediately in those fulminating cases, and not tomorrow.

It is generally conceded that appendicitis is due to muscular trauma, psoas and iliac, plus infection. In this connection I wish to report a case, and I neglected to bring the specimen illustrating this point. A patient died of malignant malaria. At the autopsy I found the appendix containing seven or eight shot. This patient gave no evidence of trouble with his appendix during life, and there was not the least sign of inflammation present in the organ, hence we can eliminate foreign bodies as a cause of appendicitis. It is due to infection in every case; foreign bodies *per se* are incapable of producing the disease.

As to appendicitis in the negro, I have had two negroes with appendicitis. Both had fulminating appendicitis and died. We do a great deal of harm in operating on such cases. We know in many instances that the patient cannot survive. No good is accomplished to the patient nor the surgeon doing the operation, though the loss of the case will perhaps be the means of deterring some one from accepting an operation at a time when such operation could save his life. I am glad to say that it is the exception at present, rather than the rule, to find a physician that does not approve of early operation in all cases of appendicitis. Such a course is undoubtedly the wisest.

Dr. Holder, closing: I feel greatly honored in being thus complimented by the exhaustive discussion of my paper by my distinguished colleagues, and I feel, moreover, that very little can be added to what has already been said. In fact, if you were to read a dozen textbooks on surgery, it would take you a day

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and a half, perhaps, to read all of that subject pertaining to appendicitis, and you would not have learned any more at the end of that time, I venture to say, than you have from the discussion which has followed the reading of this paper, because the suggestions brought out therein are more modern than textbooks; they are suggestions that come from surgeons today, and not six months or six years ago. It looks to me like the opinion of the surgeons is a unit, and I think the time is not far distant when appendicitis will be regarded the world over as a strictly surgical disease. I do not believe in operating until you have made a diagnosis, but I do believe in operating when the proper time arrives, and from my paper and from the discussion which has followed, the proper time has been brought out clearly and forcibly. Just as soon as the diagnosis of appendicitis is made, the abdominal cavity should be opened and the appendix removed, provided the case is seen within the first twenty-four hours from the onset of the attack; if later than this, conditions and circumstances, backed by experience and good judgment, must govern your course.

About appendicitis in the negro, I think that is a question which is worth a word or two. The negro anatomically is a counterpart of the white man, and why should he not have appendicitis just as well as the white man? In fact, I believe they are even more liable to the disease than white men, for this reason: We all know that traumatism is one of the active causes of appendicitis, devitalizing the tissues, thereby favoring the attack of pyogenic organisms. Negroes are laborers, while white men as a rule live sedentary lives; negroes are more subject to injuries of all kinds and to the violent exercise of the iliac and psoas muscles, producing, it is claimed, trauma of the appendix, thus favoring attacks of appendicitis. I think the argument that you do not have appendicitis in the negro, is fallacious. I believe they have it, in proportion to numbers, quite as often as white men. They are not treated by the surgeon, they are not operated upon, and therefore it goes by as something else. I have operated upon a number of cases of appendicitis in negroes who have come under my care in the wards of the hospital.

In conclusion, to sum up the matter, if in this disease, as in brain lesions, the profession would accept the principle that it is surgical, and that all cases of appendicitis in the onset of the attack are proper subjects for exploratory operation, death would be a rare result.

How happy is he born or taught,
That serveth not another's will;
Whose armour is his honest thought
And simple truth his utmost skill.
—*Sir Henry Watton.*

The noblest contribution which any man can make for the benefit of posterity is that of a good character. The richest bequest which any man can leave to the youth of his native land is that of a shining, spotless example.— *Winthrop.*

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PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

On a Family Form of Recurring Epistaxis, Associated with Multiple Telangiectases of the Skin and Mucous Membranes.

W. Osler (*Johns Hopkins Hosp. Bul.*, vol. 12, no. 128) reports three cases of this rare and interesting condition. The first patient was a man aged fifty-seven, who had been having attacks of epistaxis from boyhood. Seven member of his family were similarly affected with attacks of epistaxis. He had telangiectases on the skin of his face, and on the mucous membranes of the nose and mouth. A second case was a man aged fifty-five, who also had been having attacks of epistaxis from childhood. He developed telangiectases of the skin and mucous membranes, bleeding from some of the spots. Autopsy revealed cancer of the stomach, mesentery, omentum, liver, retroperitoneal glands, lungs and brain. The third case occurred in a man aged forty-nine, who had suffered from recurring epistaxis since his tenth year. There were multiple telangiectases of the skin and mucous membrane of the nose and mouth.

Osler remarks that angiomata are very peculiar and remarkable structures, in which he has been interested for many years. Apart from the big nevi and angiomata with surgical relations there are:

1. The pin-point, punctiform, capillary angioma, of which few skins lack examples. They may be numerous, but they are rarely disfiguring. They appear and disappear. For ten years he had one the size of a pin's head on a finger.

2. The solid, nodular nevus, ranging from 1 to 4 or 5 mm. in diameter, forming a definite little tumor, either sessile or pedunculated, and very common on the back.

3. The spider angioma, formed by (*a*) three or four dilated veins, which converge to and join a central vessel; or (*b*)

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which unite at a central bright red nodule projecting a little beyond the skin. They are very common, and doctors are often consulted about their presence on the face.

As examples may be found on the skin of nearly everybody, these three varieties may be regarded as almost normal structures.

When the punctiform or spider angiomata increase greatly in numbers they are very disfiguring. In one case the skin of the face was peppered with them, and at a distance the patient looked disfigured with a bright, fresh acne rash. In another they had also proved a source of danger, as he had bled from them repeatedly. An individual spider angioma may increase in size, or, as in the cases here related, they may become very numerous.

Angiomata have a curious relationship with affections of the liver. In cirrhosis, in cancer, in chronic jaundice from gall stones, spider angiomata may appear on the face and other parts. They may be of ordinary stellate variety, like the stars of Verheyen on the surface of the kidney, or the entire area of the star may become diffusely vascularized, so that there is a circular or ovoid territory of skin looking pink or purple, owing to the small dilated venules. A dozen or more of these may appear on the trunk, or even large ones may disappear. And lastly, in a few cases of disease of the liver he has seen large, mat-like telangiectases or angioma involving an inch or two of skin, looking like a very light birth-mark, but which had appeared during the illness. The skin was not uniformly occupied with the blood vessels, but they were abundant enough on the deeper layers apparently to give a deep change in color and to form very striking objects. The dilated venules on the nose, and the chaplet of dilated veins along the attachment of the diaphragm, are not infrequently accompaniments of the spider angiomata in cases of disease of the liver.

Osler has recently seen the spider angiomata appear in the face in a case of catarrhal jaundice.

Character, like porcelain ware, must be printed before it is glazed. There can be no change after it is burned in.—*Beecher.*

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SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

A Case of Suture of a Stab Wound of the Heart, with Remarks on, and a Table of, Cases Previously Reported.

G. T. Vaughan (*Med. News*, vol. 79, no. 23) reports a case of stab wound of the heart operated upon by him, in which, however, the outcome had been fatal.

The entire literature reveals reports of 26 cases sutured, with a mortality of 76.93 per cent.

Without doubt the greatest immediate danger is from hemmorrhage, next from shock and entrance of air into the heart. Then comes the danger from pericarditis, empyema and pneumonia. Of the 26 cases, 1 had pericarditis; 2 empyema; 2 empyema and pericarditis; 1 empyema and abscess of right lung, and 1 bronchopneumonia—7 cases with infection, all of which were fatal except the 2 cases of empyema only.

The urgency of the symptoms and the necessity for prompt and rapid action often prevent the observance of proper aseptic precautions—a fact which probably accounts for the frequency of infection.

The author feels that a review of these cases justifies the following conclusions:

1. The time has arrived when a wound of the heart should be operated on with as little hesitation as a wound of the brain, with the expectation under corresponding conditions of getting equally good results. The mortality must inevitably be high—not from the operation but from the injury—especially if all cases including desperate ones be undertaken. Selection of cases who have survived five or more hours after receiving the wound would give a good percentage of recoveries, but such selection is not to be recommended.

2. In all cases of wounds in the region of the heart, with symptoms threatening life, an exploratory operation should be done by making an osteoplastic flap by dividing the fourth and fifth costal cartilages at their attachments to the sternum and the ribs about one inch external to their attachment to

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the cartilage, somewhat according to the method of Roberts. This flap turned up as a door on a hinge gives a good view of the pericardium and can easily be enlarged upward if more room is required.

3. While early and speedy operation is often essential to success, yet the importance of asepsis cannot be too strongly emphasized on account of the great danger of pericarditis and empyema. If there has been much hemorrhage a quantity of physiological salt solution, approximately equal in amount to the blood lost, should be injected into a vein while the surgeon is operating on the heart, if it has not been done sooner.

The Treatment of Aortic Aneurism by Means of Silver Wire and Electricity.

L. Freeman (*Amer. Jour. Med. Sc.*, vol. 27, no. 7) says:

1. Considering the inefficiency of medical treatment, and the comparative efficiency of the use of silver wire and electricity, it is probably better to proceed to the latter at once without wasting valuable time upon the former. This seems all the more desirable when we consider that wiring is not a very dangerous process, and that it is in the early stages of an aneurism, when the sac is still firm and the patient is in good condition, that the best prospect of cure exists.

2. Soft, undrawn, unalloyed silver wire devoid of spring—wire just as it comes from the shop—is preferable to the hard, highly drawn wire alloyed with copper and full of spring. It is hardly necessary to previously coil the wire.

3. It is still an open question as to which is preferable, a large amount of wire or a small amount, with the theoretical advantages in favor of the former.

4. A strong electric current is apparently preferable to a weak one.

5. The canula through which the wire is introduced should be inserted just within the sac, and no further.

6. There is little if any danger of bursting the aneurism from increase of pressure due to coagulation in a portion of the sac only.

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NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary; Laryngologist to Presbyterian Hospital.

Laryngeal Paralyses and their Importance in General Medicine.

J. W. Gleitsman (*New York Med. Jour.*, vol. 74, no. 24) reviews the investigations made concerning the innervation of the larynx. It has been definitely shown that irritation of one of the phonatory areas, which are located on the descending surface of the prefrontal convolution, is always followed by symmetrical bilateral adduction of the vocal cords, phonetic movements which also take place when one phonatory centre has been experimentally removed or destroyed by disease, and a positive indubitable case of unilateral paralysis due to cerebral lesion (hemorrhage, softening, etc.), has not yet been reported. The extirpation of both phonatory centres has no influence on the respiratory office of the larynx. Adduction of the cords can also be elicited from a small area in the bulbus. The centre of respiration is located in the bulbus. Recent investigations have shown that the vagus is the motor nerve of the larynx. As the superior laryngeal nerve is the sensory nerve of the larynx and only sends motor fibres to the cricothyroid muscles, the recurrent is the motor nerve for all the intrinsic muscles of the larynx and innervates adductors as well as abductors. The most important chapter in the pathology of laryngeal paralysis is the discovery by Semon of the proclivity of the abductor fibres to disease. The recurrent is not a homogeneous nerve, but contains separate fibres for the adductors and abductors, this fact making it easier to comprehend the isolated paralysis of one group of muscles in affections of a nerve. It is also not surprising from what was said of the location of the phonatory and respiratory centres in the cortex and medulla, respectively, that laryngeal paralyses based upon central causes or physical disturbances such as hysteria and shock, affect the phonatory, the adductor muscles, and bulbar lesions the respiratory, the abductor muscles. Abductor paralysis is of chief importance from a pathological standpoint, for the fixation of the vocal cords in the median line is productive

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of voice alterations and dyspnea and frequently, unless tracheotomy be performed at once, bilateral abductor paralysis may cause death from suffocation. The lesions producing adductor paralysis bear a more or less subordinate character, and in this condition the chief cause of complaint will be more or less interference with tone production. The causes of abductor paralysis may be hysterical, psychical, or reflex in nature. Organic causes chiefly produce abductor paralysis, and these may be hemorrhages, syphilis, tumors, diphtheria, progressive bulbar paralysis, amyotrophic lateral sclerosis, syringo myelia, and locomotor ataxia, which are to be classed among those emanating from the bulbus and spinal column. Peripheral causes are tumors of the neck (cancer of the esophagus), aneurism of the aorta, of the innominate, or of the right subclavian (on account of the greater frequency of the aortic than subclavian aneurism the left recurrent is oftener paralyzed than the right), mediastinal tumors, such as malignant growths, infiltration of the peritracheal or bronchial glands in syphilis, pericarditis, pleuritic adhesions, as in tuberculosis, traumatism and injuries; further, infectious diseases, influenza, scarlet fever, typhoid fever, toxic influences, principally lead, which is apt to produce also adductor paralysis or rheumatism, both causing peripheral neuritis, although the diagnosis of rheumatism ought not to be made hastily and before an earnest and conscientious search for other factors has been made.

Rheumatism as Cause and Effect in Inflammation of the Throat.

W. Cheatham (*Med. Record*, vol. 60, no. 24) says:

1. It is undoubted that a certain number of cases of acute rheumatism are preceded by an angina in a proportion varying from 30 to 80 per cent.

2. Both rheumatism and angina have many etiological points in common — season of year, cold, wet, fatigue, depression, vitiated air, etc.

3. The connection of angina and rheumatism, though undoubted in a number of cases, is not yet clearly established.

4. The tonsil may be the port of entry of the rheumatic virus, although the naked eye appearance of the throat gives no indication of its being affected.

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5. The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy).

6. Peritonsillar inflammation does not appear to be arrested by the administration of anti-rheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the contrary, are considerably benefited by the administration of salicin or salicylate of sodium. That this action proves the rheumatic nature of the disease cannot yet be accepted.

7. The question requires further research in two directions. One in differentiating the various forms of angina, and settling the one which is associated with rheumatism; the other in further research to discover the true nature of rheumatism.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

The Mechanical, or Combined Plastic and Mechanical Treatment of Retroversion of the Womb.

M. Rosenwasser (*Cleveland Jour. of Med.*, vol. 6, no. 11) summarizes an interesting and valuable article in these conclusions:

1. A retroverted womb uncomplicated by disease should be replaced and supported by a pessary.

2. Retroversion complicated by diseased womb or impaired pelvic floor, the womb being movable, requires preliminary plastic operation to restore the normal condition before using a mechanical support.

3. Suspension operations should not be done simultaneously with the plastic in face of the probability that a pessary can sustain the womb in position.

4. Retroversion complicated by aggravated prolapsus requires simultaneous plastic and suspension operations to effect a cure.

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5. The treatment of retroversion with fixed womb is that for pelvic inflammation. Whenever the latter requires laparotomy or colpotomy, the retroversion becomes subject to such surgical treatment as may appear best suited to the particular case.

6. Retroversion, simple or complicated, in which mechanical support and plastic operation have failed to cure or relieve, and in which the symptoms demand relief, constitutes a proper indication for a suspension operation.

Natural Method of Draining the Peritoneal Cavity.

J. G. Clark (*Univ. of Penn. Med. Bul.*, vol. 14, no. 9) says:

1. The peritoneum has an enormous absorbing function, being capable of taking up in an hour 3 to 8 per cent. of the entire body weight.

2. Numbers of solid particles are carried in an incredibly short time from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood circulation, by which they are quickly distributed to the abdominal organs and to the bone marrow.

3. The glandular bodies are at first largely transported as free bodies, swept along by lymph currents, but later the leukocytes act as the carriers.

4. There is, normally, a force in the peritoneal cavity which carries fluids and foreign particles toward the diaphragm, regardless of posture, although gravity may greatly favor or retard the current.

5. After the introduction of microörganisms into the peritoneal cavity, there is a great decrease in their number within the first hour, both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is, therefore, no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means.

6. Vigorous streptococci which remain behind, develop, within six hours, a repellant or destructive quality for leukocytes, and the lethal combat is, therefore, inaugurated and well under way before drainage, as ordinarily employed, can possibly exercise any beneficial action. In many cases, there-

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fore, in which surgical drainage is employed, patient recovers in spite of and not because of it.

7. A moderate amount of even virulent organisms, carried by the blood to the lungs, liver, spleen, kidneys, gastro-intestinal tract and bone marrow, may be destroyed or eliminated without the least harm to the patient, whereas, if the same amount of infectious matter is detained about a surgical field in the abdominal cavity, or stagnates in a dependent pocket, they may generate myriads of others, and thus overwhelm the patient.

8. In many cases, therefore, drainage, as ordinarily employed is superfluous, or even dangerous, and the rational method is to remove all possible débris and infectious matter by thorough irrigation, and then leave one litre of salt solution (0.6 per cent.) in the abdominal cavity, and in order to promote and hasten natural drainage, supplement this by an enema of litre of salt solution given while the patient is well under anesthesia and in the Trendelenburg posture.

9. Under this plan the patient is greatly stimulated, shock is minimized or averted, the urinary excretion is greatly increased, and thus toxic matters are more easily eliminated without irritation to the kindeys or bladder, peritoneal infection is quickly eliminated, while yet minimum in amount, thirst is alleviated or entirely prevented, intestinal peristalsis is promoted and consequently tympanitis is of less frequent occurrence, and the early action of the intestine evacuates infectious matter thrown out in the canal by the blood vessels of the villi.

All of these factors combine to reduce mortality after abdominal sections, to decrease the pain, discomforts and complications of the first forty-eight hours, and finally to hasten the recovery of the patient.

I take the true definition of exercise to be labor without weariness.

Labor is exercise continued to fatigue; exercise is labor used only while it produces pleasure.—*Dr. Samuel Johnson.*

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Memphis Medical Monthly

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EARLY DEATHS: HOW CAN WE LIMIT THEM AND PROTECT OURSELVES AGAINST THEM?

UNDER the above caption, in the *Fraternal Medical Examiner* for December, 1901, Dr. A. L. Craig, of Rock Island, Ill., calls attention to the large number of deaths which occur in the first, second and third years of the lives of holders of life insurance policies. After reviewing the statistics of a number of fraternal orders and life insurance companies, which show a large percentage of benefits and policies which matured within a very short while after being issued, the author states that it is generally supposed, and has been held for years, that the early mortality of insurance risks was low, especially for the first year or two years of their lives, but it has been the later experience, of the benevolent orders at least, that nearly 40 per cent. of their mortality occurs within the first three years, and 50 per cent. of the 40 per cent. within the first year.

In accounting for this state of affairs, the author states that the records of large insurance concerns within the last few years indicate that quite a percentage of those seeking insurance must have some knowledge of an existing physical condition which threatens their lives, or of some hereditary tendency that may make it doubtful that they live out their expectancy.

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He says further: The relation of the applicant for insurance and the medical examiner are the reverse of that of the patient and his physician. The former conceals as far as possible all data relating to family history, environment and his own clinical history and present physical condition that may be material to his examination and affect unfavorably his acceptance, while the patient usually aids his physician in every way he can to discover his true physical status that he may be intelligently treated.

Unfortunately, a large percentage of local medical examiners, while they may be, and in most instances are capable and painstaking physicians, are not thorough and careful examiners for life insurance. It has been found quite impossible to get up a blank that will cover all conditions and elicit all the information that it is sometimes very desirable to be possessed of.

The thorough, conscientious examiner will oftentimes note his conclusions based on the appearance of the applicant, which are sometimes an invaluable aid to the supervising examiner in receiving the examination. The incompetent or unscrupulous examiner, either unconsciously or wilfully, fails to make a complete report of the conditions as they exist and the examination is thoroughly misleading, with the result that undesirable risks are recommended—the mortality of the order raised and the financial burden increased.

The suggestion that the subject of life insurance examination be included in the curricula of medical colleges and be taught the same as other branches, is regarded by Dr. Craig as a good idea.

While we cannot believe that many physicians would be guilty of connivance either with the applicant or the agent in attempting to secure insurance, we are confident that frequently the examination of an applicant for life insurance becomes too much a mere matter of form. Routinism, press of business, and it may be ignorance, will at times account for laxness in making these examinations, and doubtless many cases of incipient pulmonary or kidney disease are overlooked by the examiner owing to the fact that he does not make his investigation sufficiently thorough. The suspicions of the

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chief examiner are occasionally aroused by some apparent lack of a clear personal and family history as obtained on examination, and by this means many doubtful risks are rejected, but naturally the position of chief responsibility is that of the local examiner, upon whose attention to detail depends so much of importance to the company, and not infrequently to the applicant himself. It will always be to the interest of life insurance companies to pay well for the services of their examiners, and thus be able to secure a superior class of professional talent and thereby perhaps save for themselves losses of considerable proportion.

EDITOR'S NOTES.

DR. H. R. COSTON, of Osceola, Ark., has changed his location to Harkell, Texas.

MESSRS. SCOTT & BOWNE, of New York, are mailing to physicians their desk pad and calendar for 1902. This calendar is a serviceable publication, and should be on the desk of every physician.

DR. ROBERT G. HENDERSON has returned from a protracted stay in New York, where he has been doing work in dermatology. Dr. Henderson will confine his attention to this line of practice.

A VERDICT FOR THE DEFENDANTS was returned by the jury in the case of M. Cohen against Drs. Rogers and Smythe, of Memphis, for fifteen thousand dollars ($15,000) damages for the loss of an arm.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES will be enlarged by the addition of sixty-four pages to each issue, beginning with the January number. All of these pages will be devoted to the accommodation of original articles. This journal is in the highest class of scientific publications, and is an honor to American medicine.

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THE PHYSICIAN'S DAILY MEMORANDUM FOR 1902 is again being mailed by Messrs. M. J. Breitenbach & Company, of 53 Warren St., New York City. This memorandum book has great favor with practitioners, as it serves a very practical purpose in their daily needs.

THE MEMPHIS MEDICAL SOCIETY, at its annual election of officers, held Tuesday evening, December 19, 1901, elected the following officers to serve during the ensuing year: President, Alfred Moore, M.D.; Vice-President, Edwin Williams, M.D.; Secretary, James L. Barton, M.D.

DR. W. B. HAGGARD, of Nashville, Tenn., was operated upon recently for an attack of appendicitis, and is now, we learn, well on the road to complete recovery. Dr. Haggard is well known to the readers of the MONTHLY for his excellent work in the field of gynecology and abdominal surgery.

MESSRS. PARKE, DAVIS & COMPANY request us to state that not one of the recent tetanus fatalities following vaccination at Camden, Atlantic City, Bristol, Brooklyn, Cleveland and St. John, N.B., succeeded the employment of their vaccine virus. In not one of these cases was their vaccine used.

THE HELEN HYDE CALENDAR has come to us from the Antikamnia Chemical Company of St. Louis. This calendar is a reproduction of an oil painting that was exhibited at the Paris Exposition, which was purchased by Mr. Frank A. Ruf, the well known president of the above concern. The painting is the work of an American artist, Miss Helen Hyde, and was one of the most commented upon of the pictures on exhibition at the Exposition. We have never seen a more beautiful study than this, and the harmonious blending of colors gives it a charm that at once attracts the eye of even the most unartistic. The medical profession is certainly indebted to the Antikamnia Chemical Company for favoring them with this exquisite calendar.

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BOOK REVIEWS.

FIRST AID TO THE INJURED AND SICK. By F. J. Warwick, B.A., M.B. Cantab., Associate of King's College, London; Surgeon-Captain, Volunteer Medical Staff Corps, London Companies, etc.; and A. C. Tunstall, M.D., F. R. C. S Ed., Surgeon-Captain Commanding the East London Volunteer Brigade Bearer Company; Surgeon to the French Hospital and to the Children's Home Hospital, etc. 16mo volume of 232 pages and nearly 200 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth $1 net.

The subject of first aid to the injured and sick has been thrust prominently to the front especially by the recent wars which have been waged in various countries, but it is not merely the soldier who is likely to be in need of such assistance, for every day in our midst occur accidents and emergencies where temporary assistance prior to the arrival of the physician is demanded. Frequently the outcome of an accident or sudden illness depends upon the character of handling that the patient receives in the time of emergency. Therefore it becomes imperative that not merely the physician, but likewise the laity, should be acquainted with the most desirable methods of dispensing first aid. This little book comprises a fund of valuable information on this subject, and will be found to present in clear and unequivocal language such procedures as are demanded in various cases of emergency.

A TEXT-BOOK OF PHARMACOLOGY. Including Therapeutics, Materia Medica, Pharmacy, Prescription writing, Toxicology, etc. By Torald Sollmann, M.D., Assistant Professor of Pharmacology and Materia Medica, Western Reserve University, Cleveland, Ohio. Royal octavo volume of 880 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth $3.75 net.

This work aims to furnish, in a manner suited for reference and study, a scientific discussion and definite conception of the action of drugs, as well as their derivation, composition, strength and dose. The author bases the study of therapeutics on a systematic knowledge of the nature and properties of drugs, and thus brings out forcibly the intimate relation between pharmacology and practical medicine. Practitioners and students will find the work an admirable guide in that most important part of their equipment, namely, how to use drugs accurately and efficaciously. The book includes the practical subjects of materia medica, pharmacy, prescribing, incompatibility, toxicology, etc. A special chapter has been devoted to toxicologic analysis, including both the inorganic and organic poisons. Pharmaceutic assaying has likewise been given due consideration. There is also a section on laboratory experimentation, which, besides rendering the greatest aid to the student in the laboratory, will serve as a basis for classroom demonstrations. The book will be of the utmost service, not alone to students and practitioners, but also to druggists and everyone interested in the use of medicines.

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A TEXT-BOOK OF MEDICINE. For Students and Practitioners. By Dr. Adolph Strümpell. Third American edition, translated and thoroughly revised from the thirteenth German edition by Herman F. Vickery, A.B., M.D., and Philip Coombs Knapp, A.M., M.D., with Editorial Notes by Frederic C. Shattuck, A.M., M.D. 8vo, 1043 pages, 119 illustrations. Cloth $6, sheep $7. D. Appleton & Co., New York.

Of German works on practice none is so well known in America as that of Strümpell, and perhaps this is likewise true of the work in Germany. At least this last would be indicated from the fact that it has gone to thirteen German editions and promises to gain in popularity in the future.

This work presents the characteristics that are the most apparent to the American student at the German universities—the thoroughness with which the pathology of disease is studied, and the close attention that is given to methods of diagnosis by which precision in that respect is attained. Still it cannot be said of Strümpell's work that he has displayed the well-known indifference of German writers to therapy, for in his book he has devoted considerable space to this feature, which is of paramount importance to the practitioner. While the practitioner naturally desires accuracy in diagnosis, he is also after therapeutic results, which is of course the prime consideration with his patient. Every requirement for a complete text-book on practice is met in this book.

Strümpell's text-book is in its third American edition, which goes to indicate that it has found pretty general favor with practitioners and students in this country. In this connection the editorial notes made by Dr. Frederick C. Shattuck will be found valuable, as they contribute not a little to the adaptation of this work to the needs of the American profession.

ESSENTIALS OF PHYSIOLOGY. Prepared especially for Students of Medicine, and arranged with questions following each chapter. By Sidney P. Budgett, M.D., Professor of Physiology, medical department of Washington University, St. Louis. 16mo volume of 233 pages, finely illustrated with many full page half-tones. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth $1 net.

While medical students are very well acquainted with the merits of Saunders' Question Compends, this is an entirely new work that has been added to the series. The general arrangement of this excellent series of compends is carried out in the present work, and the student will find that the author, who is a teacher of wide experience, has covered the subject of physiology in a complete and comprehensive manner. At the end of each chapter will be found a series of questions which summarize the contents of the chapter previously read. The work is well illustrated and bound uniformly with previous issues of this series.

A LABORATORY HAND-BOOK OF PHYSIOLOGIC CHEMISTRY AND URINE-EXAMINATION. By Charles G. L. Wolf, M.D., Instructor in Physiologic Chemistry, Cornell University Medical College, New York. 12mo volume of 190 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth $1.25 net.

The object of this book is to supply to students and practitioners of medicine a guide to a course in physiologic chemistry and the examination of the urine and

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the contents of the stomach. The first part of the book is taken up with simple exercises in physiologic chemistry, which will give an elementary insight into the chemical side of physiologic processes.

In the part of the book which deals with the urine and the gastric contents, no tests have been given which do not rest on a good chemical foundation. The aim has been to give as few tests as possible, and these to be chosen for their suitability to purely clinical needs. No operations are described which have not undergone a thorough trial with students in the laboratory.

THE FOUR EPOCHS OF WOMAN'S LIFE. A Study in Hygiene. By Anna M. Galbraith, M.D., author of "Hygiene and Physical Culture for Women;" Fellow of the New York Academy of Medicine, etc. With an Introductory Note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. 12mo volume of 200 pages. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth $1.25 net.

In this little book will be found a departure from the stereotyped lines of medicine, for the author has taken as her subject "Woman," and has made her a study from the standpoint of hygiene. She has endeavored to expound for woman's benefit the laws which govern her physical being, and offers instruction in the fundamental principles which underlie the epochs of her life.

In this day of preventive medicine, proper instruction in the principles of hygiene will prove more beneficial to woman, and to the improvement of her physical, and therefore mental status, than will recourse to the numerous artificial means that are offered for attaining this end.

The author has presented her subject in clear and comprehensive language that will readily be grasped by the laity, for whom this book was written, and offers in a pleasing and instructive manner such truths in this connection that every woman should be thoroughly acquainted with.

Fibroid Tumor Removed by Supravaginal Hysterectomy.

G. E. Shoemaker (*Proc. Phila. Co. Med. Society*, vol. 22, no. 7) reports the case of a patient in whom the interesting point was that electrical treatment had been employed by a physician in another city for nearly five years continuously three times a week, with little if any effect upon the growth. The tumor had increased rapidly in size in the last three months. Behind the tumor was a cystic mass which, on section, had proved to be a large hydrosalpinx. Operation had been done on account of increase in size.

The case illustrates the futility of electrical treatment for the removal of fibroid growths. The patient had had, at one time, an attack of obstipation, and twenty pounds of feces had been removed. Here the electrical treatment had been of value in stimulating the bowel. The case presented an uncomplicated recovery from the hysterectomy.

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ADDRESS.

A BRIEF SKETCH OF THE EVOLUTION OF GYNECOLOGY AND ITS PRESENT PERFECTED STATUS.*

BY WILLIAM D. HAGGARD, M.D.
NASHVILLE, TENN.

Professor of Gynecology, Medical Department University of Tennessee; Professor of Gynecology and Abdominal Surgery, University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Fellow of the Southern Surgical and Gynecological Association; Member of the Alumni Association of the Woman's Hospital of New York, etc.

Mr. President and Gentlemen of the Tri-State Medical Association of Miss., Ark. & Tenn.:

The privilege of addressing such an important association on this occasion, on so important a subject as gynecology, is an honor of which I am not insensible. It behooves a circumspection which I appreciate in the fullest measure, and imposes a responsibility which I cannot fail to recognize.

This association has affixed its stamp of approval upon the importance of gynecology in the annual appointment of a special address upon that subject. It has been said that as a specialty, gynecology is big enough to employ the ingenuity of any intellect, even though it be transcendently above the average. As a vindication for special work in any department

*Annual Address in Gynecology, Tri-State Medical Association (Miss. Ark. & Tenn.) Memphis, November 20, 1901.

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of science, Dr. Sam'l Johnson said: "Those who attain any excellence commonly spend life in one pursuit; for excellence is not often obtained upon easier terms."

Gynecology as a specialty has existed only in the last quarter of the century which has just closed its remarkable and unprecedented record of advancement and illustrious achievement. This golden age has not been excelled by all the scholars and seers of antiquity. "Cheops and Cephrenes may have built monuments more huge than any around us; Praxitiles and Phidias may have carved finer statues than any that grace the pedestals of modern art; Apelles may have wielded a magic and unrivaled pencil; Pericles may have gathered around him mightier intellects and cultivated a richer taste and reared trophies more glorious than any that adorn a modern state; Demosthenes may have kindled a loftier eloquence and Homer a deeper sublimity than any who now speak in our assemblies or recline upon Pindus; Cicero may have thundered in the forum, and Augustus swayed in the capitol with a power and a majesty that succeeding times have never equaled. All this we grant. But to go further than this and to say that the ages of antiquity placed humanity higher in the scale of mental and moral progress than the present, I cannot."

And as to material advancement, has not the century just closed contributed more to the welfare of humanity than any that has gone before? It cannot be gainsaid that more than any other contribution to the science of humanity and the art of living, the science and art of medicine has conferred the greatest good upon the greatest number. Not the least of these contributions has come from the youngest department of medicine—gynecology, which has been evolved and perfected in the last few decades.

I would not be iconoclastic, nor have you be unmindful of the antiquity of the beginning of even this, the youngest specialty of the healing art. It is well for us to remember that Rufus, an Ephesian who lived during the reign of the Emperor Trajan, 600 years after Hippocrates, was the first to describe the uterus and its appendages; that Aetius collected and arranged the first book upon obstetrics which comprised all the knowledge which had been gained up to his day; that

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Paul of Egina, the last of the old Greek writers on medicine, was the first male practitioner who devoted himself to midwifery and the diseases of women. He was the first specialist who "sought excellence by spending life in one pursuit." Avicenna, an Arabian in the tenth century, wrote largely on obstetrics, but regarded all presentations of the lower extremities as dangerous and to be corrected; Albucacis, in the eleventh century, also an Arab, described the first known case of extra-uterine pregnancy; but it was not until the time of Ambrose Parè, that diseases of women, or even parturition, were regarded in a modern light. This great improver in medicine and surgery was the first surgeon to see the futility of shaking and tossing the woman to change the position of the child, and instituted our present practice of turning and delivering by the feet in preternatural cases.

Curious as it seems, certainly the greatest step in the life history of gynecology was the advent of male attendants at parturition, which was brought about by Parè and Clement, in Paris. Napoleon was thought to have transcended the bounds of propriety when he sought the counsel of our sex to entrust his empress and the life of the child of destiny. A famous English writer argued, even as late as 1827, that if the queen of George III could be delivered safely of all her children without a male practitioner, surely all the remaining women in Christendom could do likewise. The great and good queen, the late lamented Victoria, whose scepter has done so much for civilization, not only availed herself of the most sapient physicians in her realm as her accoucheurs, but was the first to have chloroform administered during parturition, in order to demonstrate its safety and efficiency to her British sisters and to the world.

Henry Daventer, of Holland, in 1771, was the first to demonstrate the axis of the pelvis and the importance of attention to it. Recamier (1816) introduced the speculum into modern practice. Since then, among other surgical appliances, two specula have been exhumed from the cities of Pompeii and Herculaneum, which were buried by Vesuvius 79 A.D. This again illustrates the adage that nothing is new under the sun, and "that which hath been is, and that which is, shall be."

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Even with this appliance and all the accumulated lore of the centuries, it must be admitted that our knowledge of diseases of women, as it exists today, was notorious for its poverty and crudeness one hundred years ago. The present degree of perfection in discriminating diagnosis and the correct application of enlightened therapeutic resource, are dependent upon four great epochs: 1. The first ovariotomy. 2. The discovery of the duck-bill speculum and silver sutures in surgery. 3. The discovery of anesthesia. 4. The introduction of antisepsis and asepsis. It is of the greatest possible significance that three of these are tributes from America to the universal altar of science. What concerns this assemblage of Southern doctors most tonight, and of which we cannot abstain from the profoundest feelings of pleasure and pride, is that the first two of these epoch-making discoveries emanated from the chivalric, the courteous, the sunny Southland. I beg the privilege of reminding you that the very spot where we are now congregated is about midway, and only a day's journey, on the north to the scene of the first ovariotomy in the history of the world, by Ephraim McDowell at Danville, Ky., on the south, the place made memorable by the immortal labors of J. Marion Sims, the "Father of American Gynecology," at Montgomery, Ala. Let this fact be so well known that it lose not its precious significance. It should be held as a sacred legacy that you, physicians and surgeons of the South, should revere and emulate. These geographical spots are hallowed with infinitely more historic treasure than that which hovers about the moat and parapet of a ruined castle, whose gilded halls once held prince or potentate. The achievements which were wrought in these familiar spots were freighted with more beneficence to mankind than any of the fifteen decisive battles of the world.

Our race is too virile and busy to pause for reverential contemplation of the spots, or even the deeds of its contemporaries. It is too much concerned in making history—the history of strenuous endeavor—to stop in its active and time-pressed career for the study of its own newmade history. And yet, when other years and other tongues their tales of valor tell, where, oh where, will one find such intrepidity, such commanding courage, such sublime conception, such calm

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contemplation of doing that which was never done by human mind or hand before—that which experience and judgment would dictate meant almost certain death—as displayed in the deliberate opening of the sacred confines of the abdominal cavity for the first time in the annals of mankind? When we reflect that this was done in the backwoods of Kentucky in 1809, not only without precedent, but without previous experience, without assistance, and strangest of all, without anesthesia, it becomes all the more remarkable. The story of the mob clamoring at the door, crying that his life should pay for that of the sufferer, is familiar to you; but it may not be generally known that this fearless and pious man had written a beautiful prayer and pinned it on his person, so that in the event of his death, it might perchance fall under the eyes of his beloved wife, that she, at least, might know of the sincerity of his purpose. In the light of the marvellous results to posterity by the miraculous recovery of that brave woman, one cannot refrain from exclaiming—"Surely God was the surgeon, and McDowell the instrument in his hands."

In the beautiful land of the magnolia, and in the city where shortly after occurred in the ordinance of secession the greatest political event of modern times, where also occurred those wonderful discoveries which have for all times made lacerated woman whole, which has made the name of J. Marion Sims ring around the world, and which constituted the basis for those wonderful auxiliary practices in plastic surgery which made a new era in gynecology, and attracted at once the admiration of the world, the dazzling genius of Sims can have no grander eulogy than that which is graven in marble on the lifesize statue which stands in Bryant Park, New York, and faces the surging tide of Sixth avenue.

The establishment of the Woman's Hospital of New York was the initial foundation for the brilliant surgical devices on the cervix uteri and vaginal walls, which has indissolubly connected the admiration-waking name of Emmet with that of his predecessor Sims; and to these, more than any other scientists, does the profession owe its present knowledge of the repair of the accidents incident to parturition.

With the introduction of anesthesia, that God-given boon,

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which has robbed suffering of its exquisite torture, and taken from the knotted brow of sorrow its bitterest agony, these surgical operations upon the vagina and uterus reached a degree of perfection that needs no improvement, and has become the common property of all surgeons.

The earlier operations on the abdominal cavity mark a strenuous struggle against the odds of the ever-present and destroying infection, and were constantly attended by a mortality that would have discouraged less hardy men. It needed the introduction of the gospel of cleanliness, for which the world is insolvently indebted to Lord Lister.

As an added tribute to gynecological surgeons, it is but fair to direct attention to their early espousal of this innovation, especially in America. Indeed they did more than any other set of men to develop this resource, because they applied its teachings to their operations in the abdominal cavity, which was the ultimate test of the advance of asepsis. If they were found efficacious there, in the holy of holies of the human body, they had been subjected to the supremest test. Moreover, the delicacy of the peritoneum required that operations on its sacred precincts should be so scrupulous, that it became as the "field of the cloth of gold" for the perfection of aseptic measures; and therefore to the abdominal surgeon of the last quarter century, more than to any other class of operators, must be given the credit of the evolution and perfection of the aseptic surgical technique of the present.

Gynecology is the queen of the surgical sciences. It will be seen from this brief sketch that she is the daughter-science of Obstetrics, was given in marriage to Surgery, and this noble twain, dwelling along the banks of the river Lethe, whose dark waters symbolize anesthesia, have brought forth, under the fructifying influence of asepsis, the prince of sciences —abdominal surgery.

The first operations in the abdomen were confined to ovarian tumors, and Sir Spencer Wells estimated that his operation in this field alone had added thousands of years to the span of human life. In uncomplicated cases ovariotomy yields a cure in nearly 100 per cent. of cases. Fibroid tumors of the uterus were the next subject of surgical endeavor. The tracing of

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the evolution of operative measures upon that organ alone would form a most interesting and inspiring chapter for study.

Passing over the early history, with its perplexities and disappointments, and the various technical modifications, which, while absorbingly interesting to the hysterectomist, may be likened to one's following step by step the trail of the western pioneers in order to journey to the Golden Gate, the present status of the treatment of fibroid tumors of the uterus is the most satisfying group of procedures in the domain of surgery. The tying of the four large arteries and separation of the bladder and ureters allow a rapid and safe amputation of the fibroid uterus through the cervix above the vagina. Suture of the stump and approximation of the peritoneum over it topographically converts the female into the male pelvis. Closure of the abdomen by layers of absorbable suture leaves the parts in condition for immediate aseptic healing, requiring no subsequent dressings.

This perfected technique is attended with a surprisingly low mortality, and has made it the operation of election where the uterus is so studded and distorted with tumors that it too must be sacrificed. In one hundred consecutive hysterectomies for all kinds of fibroids one of the most distinguished American gynecologists has lost but two cases. The greatest advance is that of removing one or more tumors, leaving the uterus intact. This should be done early while the tumors are small, to prevent the inevitable growth, hemorrhage, pain and pressure upon adjacent viscera, and the frequent dangerous degenerative changes common to these tumors. A dozen or more tumors can be successfully removed in this way, and it has been done eighty-three times on the pregnant uterus to prevent miscarriage or interference with delivery.

The treatment of cancer of the uterus is successful in proportion to the stage of its development allowing entire removal. Many early cases of operation never have any recurrence. Nearly all long-standing ones recur after operation in from one to three years. More women die from cancer of the uterus every year in Germany than lives were lost in the Franco-Prussian war. Dührssen* says that a woman in the climacteric

*Deutsche Med. Woch., Jan. 29, 1899.

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is exposed to as many chances of dying from cancer of the womb as a soldier is of being killed in actual warfare. It behooves the closest scrutiny in order to detect its invidious approach. Every woman should be solemnly warned to apply to her physician at the slightest discharge or abnormal bleeding at the climacteric, especially a discharge stained with blood. Bimanual examination, ocular inspection, curette or test excision for microscopical examination, are the only means for early diagnosis. Dührssen, quoting W. D. Haggard, Sr., says: "If it were possible to have every woman under competent medical supervision during the climacteric the prophylactic value of this expedient would be second alone to vaccination and quarantine."

The technical features of extirpation of the cancerous uterus are safe and satisfying. The mortality in the hands of the expert is from 4 to 6 per cent. The remote mortality is entirely dependent upon early diagnosis and the promptitude of thorough surgical intervention. "While we are awaiting with anxious expectancy the advent of the magical sero-therapy that will liberate mankind from the thraldom of malignancy, let us not relax our efforts to detect its insidious approach and thwart its deadly advances by the timely and skillful institution of radical and immunizing surgery."†

The treatment for pus in the pelvis was first correctly practiced by abdominal section by Mr. Lawson Tait, whose genius and originality has done so much for this hitherto neglected and sad class of sufferers. It has rescued many pelvic cripples, and has brought the radical relief of chronic invalids of this class to its present successful position. The operation of Battey for the removal of normal ovaries for the relief of chronic and irremediable dysmenorrhea is akin to that of Tait, and both in their early history, like all innovations, were overdone; but this is a necessary evil of every advance, and now the removal of both appendages has become restricted to those cases that are hopelessly diseased by inflammatory action, which number is indeed much less than formerly supposed.

The present conservative treatment of chronically inflamed, adherent, prolapsed and tender adnexæ is the boast and pride

†W. D. Haggard, Sr., Amer. Jour. Obstet., vol. 36, No. 6, 1897.

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of gynecological surgery. In many tubes and ovaries formerly adjudged useless, partial excision, severance from adhesion, restoration of lumen, and leaving at least a part of one ovary to prevent an artificial menopause, has replaced the erstwhile ruthless extirpation of both appendages. This not only perpetuates the internal secretion of the ovary, and menstruation, but prevents the unpleasant nervous phenomena of total castration and in many instances restores the power of procreation.

In certain cases of purulent accumulation in the pelvis, evacuation and drainage are followed by pregnancy; and even where the tubes have become greatly disorganized the preliminary evacuation of pus by vaginal section allows any necessary subsequent operation for removal of the tubes less dangerous, on account of the absence of infectious material. In not a few cases I have found that the incision and drainage of pus from below has afforded such happy relief that the operation for the removal of a formerly damaged tube was rendered unnecessary.

Parry, in his classical work on Extra-Uterine Pregnancy, describes it as the only accident of nature for which there is no remedy. Mr. Tait did the first life-saving operation for tubal pregnancy in 1883, thus transferring it from the death class to one of the most brilliant procedures in life-saving.

It is interesting to recall, however, that the first suggestion of operative relief came from a general practitioner, who diagnosed a case of extra-uterine pregnancy and asked Mr. Tait to remove the products of conception by laparotomy. Mr. Tait said the suggestion staggered him and he declined. The autopsy showed him how correct the practitioner was and opened the way for the surgical salvation of hundreds who have since been afflicted with this murderous malady. Precision in diagnosis has allowed operation in many of those cases before rupture, and it is universally adjudged imperative after rupture when the woman is bleeding to death in her own belly. This procedure has many times contradicted Lusk's immortal phrase—"The resources of surgery are rarely successful when practiced on the dying."

I know of one little girl of eight years, who is living today through the genius of Dr. M. Price, as the result of an operation for abdominal pregnancy at term.

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The various displacements of the uterus, which were formerly so unsatisfactory in their treatment by purely mechanical means, have become simplified and unerringly corrected by the appropriate surgical procedure which takes into account their cause and rectifies the result. The adherent variety, prior to the time when abdominal section was employed for its release, was well-nigh irremediable. Now the operation not only frees it from adhesion and allows correction of the inflammatory disease of the appendages which caused the adhesion, but the normal position is maintained by deftly suspending the fundus to the parietal peritoneum. The uterus in seeking its health-plane in the pelvis draws the serous attachment out into an additional ligament which permits of mobility, but not of displacement.

In the movable variety the round ligaments are shortened and utilized as guy-ropes to hold the organ in its delicate position of anteverted equipoise.

The various plastic operations to restore the integrity of the pelvic floor prevent traction from below by the rectocele. So amenable are the various anatomic supports of the uterus to employment for the restoration of its lost equilibrium, that surgical ingenuity has devised over fifty operations for backward malposition.

Intra-uterine growths and inflammations are readily removed by dilatation of the cervix under careful asepsis, followed by drainage in infected endometria. A knowledge of the diseases of the urinary tract and their treatment has been vastly improved by instruments for direct inspection and treatment of the interior of the bladder by the cystocele and ureteral bougie and catheter.

Finally, the production of analgesia by the intra-spinous injection of cocain, allows much of our surgical work to be done in a state of consciousness without the danger of general narcosis, and in cases where it cannot be employed. I have had occasion to do all the minor gynecological operations under this agent as well as abdominal sections, and the painless delivery of women.

Gynecologists are not like the Greek monarch who wept that there were no more worlds to conquer, nor yet like the

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savant who boasted that there was no more to be learned. While much of the cause, recognition and relief of the diseases peculiar to women have become crystallized, there is much to be done by medical societies like this in the dissemination of knowledge by papers, and the equalization of practice by free and liberal discussions.

Apart from an aptitude and liking for this branch of the healing art, the essential requisites for eminent success in gynecology comprise three things:

1. A comprehensive acquaintance with general disease and obstetrics obtained in hospital or private practice, or both.

2. Ability in diagnosis from frequent practice of pelvic examination.

3. An apprenticeship or extensive experience in general surgery, followed, if possible, by a gynecological training.

The gynecologist must, more than any other man, be imbued with the deepest reverence for woman, an appreciation of her delicate fabric, and a recognition in her of God's greatest gift to man. She embodies all that is noble, inspiring, gentle and good; a maiden sheltering a wounded dove in her bosom is the eidolon of her sex. "Who hath made us human, whose were the hands that led us to kneel down, and whose the lips that taught our infant voices the earliest invocations to heaven? She is the high priestess of her home, whether tent or cottage, and it is with joy and laughter that she adorns it with wreaths of flowers. She is natively and charmingly modest. All rude, boisterous and immodest speech unsexes and disgraces her. The chest where dwells that divine womanliness seems built as the sanctuary of that beautiful bosom whence is destined to flow the sweet nutriment for the children of men. Within a shallow bony cell of ample breadth lie hidden those miraculous organs that out of nothing can evolve the wondrous work of reproduction."

The uterus, no larger than one's thumb, comes in gestation to be twelve inches high and nine in breadth. Its invisible vessels and nerves come to be great chords and tubes, and "its uncognoscible muscles acquire a force to rend itself in pieces in its rage, and what seems still more miraculous, to expel a little life, freighted with all its possibilities, from its parietes against the enormous resistance of flesh and bone."

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An organ so small, so unobvious as the ovary, is endued with the vast responsibility of keeping up the living scheme of the world, with its moralities, its lives, its actions, its trials, which, were it to cease, "there would be left no flowers to bloom, no insects to sport in the evening beam, no choral song of birds, no lowing of cattle, no bleating of flocks, nor voices of men to thank and praise and acknowledge the Author of every good and perfect gift." Let us honor and minister unto this soul and form divine. If the gynecologist can keep the inner courts of the temple of her body clean and strong he will have performed man's most useful service to woman, and for his reward shall be placed only a little lower than the angels.

ORIGINAL ARTICLES.

QUINSY.*

BY E. C. ELLETT, M.D.
MEMPHIS.
Ophthalmic and Aural Surgeon to St. Joseph's Hospital, the City Hospital, etc.

In presenting the following remarks on the subject of quinsy or peritonsillar inflammation, there is not anything especially new that I wish to say about the disease or its treatment, but it is a tolerably common and by far the most distressing of the acute affections of the throat, and I think a discussion of it will be of equal interest to those who do throat work and those engaged in the larger field of general practice. This paper is based on a study of twenty-seven consecutive cases.

Though allied by location and symptoms to tonsillitis, it is to be distinctly understood that quinsy is a very different disease from tonsillitis, as is of course generally understood. The tonsil is a lymphatic structure lying in the recess between the anterior and posterior faucial pillars, which unite above and diverge widely below in the shape of an inverted letter V. The tonsil rests against a layer of fascia which forms the base of its bed, and at the apex of the space between the faucial

* Read before the Memphis Medical Society, December 10, 1901.

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pillars is left a triangular recess known as the supra-tonsillar fossa. This is of varying size according to the size and position of the tonsil, but always exists and usually communicates with the mouth by an opening left between the upper end of the tonsil and the angle of junction of the faucial pillars. In the normal state a probe can be introduced in this opening to the depth of a half inch or more, and unless the tonsil has formed adhesions to the pillars quite high up, its upper end can be drawn down and in, exposing the supra-tonsillar fossa to view. Certain of the crypts with which the tonsil is normally studded open toward this space instead of toward the oral cavity, and it is common to find that some of the cheesy offensive secretion which forms in these crypts has been expelled into this space and may lie there indefinitely. This cheesy material is full of bacteria, usually pyogenic bacteria, and forms a cause for inflammation and suppuration in the peri-tonsillar connective tissue. Back of the tonsil, that is to its outer side, and slightly above it and separated from it by the layer of fascia above mentioned, is a collection of loose connective tissue, and it is to inflammation of this connective tissue that the name of quinsy is given. The cause has been suggested in speaking of the tonsillar secretion which is sometimes found in the supra-tonsillar fossa, whence bacteria enter the lymphatics and are carried into this connective tissue.

Quinsy is sometimes preceded by follicular tonsillitis and in this indirect way the causes of tonsillitis, such as rheumatism, exposure to cold, etc., may act as a cause of quinsy. I have not been impressed with their importance as a direct cause of quinsy. The secretions poured into the supra-tonsillar fossa during an acute follicular tonsillitis may be quickly absorbed into the areolar tissue beyond the layer of fascia and cause inflammation there, or the tonsillar secretion gradually collects in the fossa from the crypts of a chronically diseased tonsil, and at some time, and for some reason which as far as I am concerned is unknown, is absorbed and starts the attack of quinsy. Thus it will be seen that tonsillar disease is in my opinion the predisposing cause of peri-tonsillar inflammation or quinsy, and that we find accompanying quinsy either tonsils which are the seat of chronic follicular inflammation or that an attack of

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acute follicular tonsillitis preceded the quinsy. I have certainly seen both of these conditions nicely and positively shown in certain of my cases.

The age of my patients varied from 15 to 38. Three were under 20, thirteen between 20 and 30, and eleven were between 30 and 40. Only two were over 35. Twelve were males, fifteen females. Four of the patients were negroes, twenty-three were whites. It was bilateral in three cases, unilateral in twenty-four. Statistics from such a small number of cases would not be of any value, but the fact is well established and is borne out by these cases, that quinsy is a disease of young adults.

The symptoms are those of tonsillitis so much intensified that it is easy to recognize the fact that we are dealing with a different trouble. There is often an initial chill or chilly sensation, followed by high fever, 102° to 104° F., and the most atrocious pain on the affected side of the throat. The pain and soreness increase until after twenty-four or thirty-six hours, swallowing is almost or quite impossible, the jaws can hardly be opened, respiration may be interfered with by the swelling and edema of adjacent parts, particularly the uvula, and there is an abundant secretion of very thick saliva which can hardly be expectorated on account of the pain to which the effort to expectorate gives rise. A view of the parts is made difficult by the patient's inability to open the mouth to any considerable extent. The swelling will be found to the outer side of the tonsil and extending upward as far as the edge of the hard palate and outward to the ascending ramus of the lower jaw. The tonsil is pushed inward and may be to all appearances normal. The formation of pus is the rule, and usually occurs in from three to five days. In five of my cases pus did not form. The evacuation of pus by the surgeon or spontaneously is accompanied by immediate relief, but when pus does not form the disease slowly terminates in about ten days or two weeks. In five of my cases bacteriologic examination of the pus showed streptococci three times, pneumococcus once, and the quinsy was associated with the Loeffler bacillus (diphtheria) once.

The treatment which has been found of most service is as follows: Purgation by calomel at the beginning and keeping

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the bowels open subsequently by salines, or by enema if swallowing is impossible. Frequent cleansing of the nose and throat with a warm alkaline solution such as Dobell's or Seiler's solution. Hot applications externally, of which the best is probably a large poultice. Hot or cold gargles, or the sucking of bits of ice, as may be most grateful to the patient. A personal experience with the disease showed me that in my own case the latter was the most soothing. The sitting position is often more comfortable than lying down. The use of cocain painted on the fauces affords some relief, but not very much. I have never seen any benefit follow the use of the salicylates or other agents which have been recommended in the internal treatment of quinsy. Before pus has formed some relief is afforded by puncturing the tonsil repeatedly with a narrow knife. As soon as the presence of pus is suspected from the appearance of a tendency to point, or from the fact that a particularly sensitive point can be found with the probe or finger, or fluctuation can be detected by palpating the affected area between one finger on the swelling in the mouth and another pushed up under the angle of the jaw on the outside, surgical means may be advised with considerable assurance of giving relief. An incision may be made at the most prominent or softest or most tender point, which will usually mean the same point, or preferably the abscess may be reached through the supra-ton-

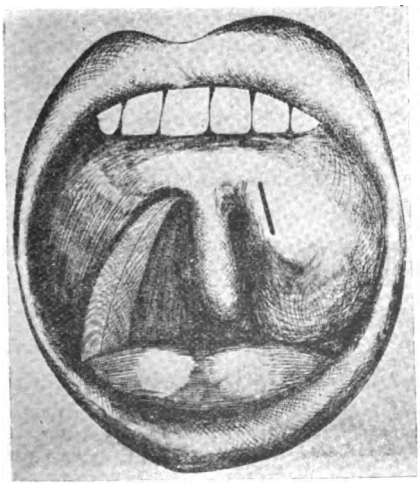

Fig. 1. Site of Incision (Coakley).

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sillar fossa. This method is so much the best and so little known that it is for the sake of calling attention to it that I was prompted to present the subject to you. If the incision is to be made over the location of the pus, a very sharp curved sharp pointed bistoury is the best instrument, and I have found it highly desirable to precede its use with the exploring needle. The point of puncture thus selected is usually well up on the soft palate and close to the anterior faucial pillar. This point is cocainized with a 20 per cent. solution of cocain, and the needle introduced under good illumination. If no pus is found, it should be withdrawn a little and introduced again successively upward, downward and outward to the depth of three-fourths of an inch directly backward and upward or downward, but not more than half an inch outward for fear of encountering an anomalous blood vessel. If pus is found the needle is withdrawn and the incision enlarged with the bistoury and further dilated with forceps introduced closed after the method of Hilton. The abscess is to be emptied as completely as possible by pressure. Irrigation or packing of the cavity need not be practiced. The incision may close and have to be reopened with a probe every few hours until the discharge of pus has ceased. In making the opening in this way the site of the diseased tissue must be borne in mind and the puncture so directed that it will reach a point behind and above the tonsil.

This sounds easy, to find a collection of pus in such a small area, but it is often quite the reverse. I have frequently made two or three incisions without finding it, and sometimes in cases where another physician had already tried his hand an equal number of times; I therefore bring to your notice the other method referred to, which I can heartily indorse as more reasonable, more certain, less dangerous, and less painful, that is the opening through the supra-tonsillar fossa. I have seen a few cases rupture spontaneously, and I want to emphasize the fact that all of them ruptured at this point. I have seen other cases immediately after rupture, and as there was no visible opening elsewhere and some pus could still be seen in and coming from this fossa, I feel warranted in saying that spontaneous rupture occurs in this location, and we can do no better than take nature's hint. After cocainizing the parts a special bent

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instrument such as I show you is to be introduced above the tonsil and pushed outward firmly until it strikes the retro-tonsillar fascia above the tonsil. If possible it is to be pushed

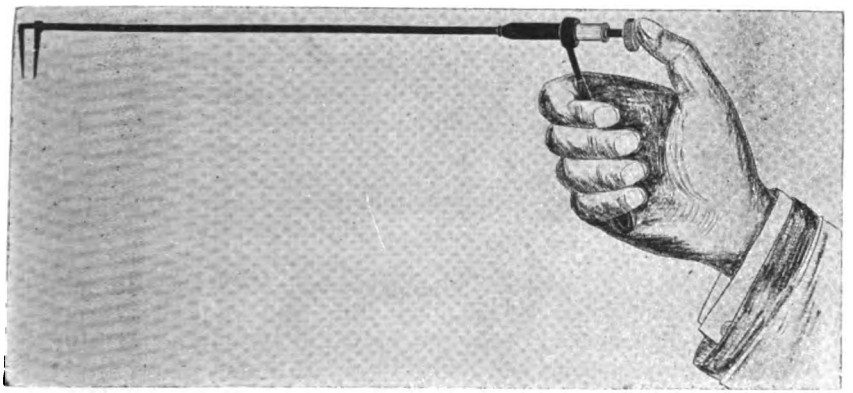

Fig. 2. Pierce's Instrument for Opening Peritonsillar Abscess through the Supra-tonsillar Fossa (instrument represented too long).

through this. If not, a right-angled knife is to be similarly introduced instead of the blunt instrument and the fascia incised. The blunt instrument is then pushed through the opening and the blades dilated by pressure on the button at the end near the handle. A free flow of pus will usually follow, and if it does not it is pretty certain that further efforts or other incisions in a different locality will only add to your patient's pain and not give him relief, though once or twice I have succeeded with a direct incision after this method had failed. All who have used this method unite in commending it, and in the cases where it works it is certainly an improvement over the direct incision. If the special instrument is not to be had, a stout bent probe offers a very good substitute. In spite of the fact that this method was first advocated several years ago, it is not mentioned in any of the textbooks, but only in occasional journal articles.

Other methods have been suggested, but I refrain from mentioning those with which I have had no experience. (Leland, Moure, &c.)

In order to prevent a recurrence of the trouble, which is from the nature of its cause prone to recur, the upper half of

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the tonsil should, after recovery from the attack, be seized with long curved toothed forceps, freed from its attachments to the pillars of the fauces and fascial bed, drawn out and cut off with scissors, tonsillotome or the wire snare, according to circumstances. For this work I prefer on the whole, the snare, either hot or cold. It is well to remove at least the upper half of the tonsil, and if enlarged it is well to remove as much of the gland as extends beyond the pillars below. The results are as a rule very good.

The following cases are selected as presenting points of special interest:

Case I. Miss K., aged 20. Seen February 16th, 1900, in consultation with Dr. R. S. Stanley. She had had sore throat for five days, breathing was difficult, swallowing and talking almost impossible, the teeth slightly apart and the jaws firmly fixed in this position. The temperature was elevated. Both tonsils were so pushed inward by a swelling to their outer sides that they met in the middle of the fauces. Incision in both sides failed to find any pus, and though we urged a repetition of the procedure the patient was extremely nervous and would not permit it. The abscesses ruptured on the 20th, nine days after attack began. This is the only case in which I have seen both sides simultaneously affected.

Case II. Mr. D., aged 29, was seen in July last in consultation with Dr. S. E. Pincus. He had had a sore throat for one week and Dr. Pincus, who saw him at the beginning of it, says it started as a follicular tonsillitis. A right sided peri-tonsillar abscess was noted and opened through the supra-tonsillar fossa in the manner described. A free flow of pus occurred and the pain was at once relieved. Next day the procedure was repeated, letting out more pus which had formed and collected. The next day some pus was spontaneously discharged. Two days later the left tonsil became inflamed and for two days presented only the appearance of tonsillitis. Then the tissue behind the tonsil began to swell. This was on August 3rd. A puncture through the supra-tonsillar fossa brought only blood. On the fourth repeated puncture in this location and incision over the swelling through the palate were again unsuccessful as far as the evacuation of pus was concerned He began to get better, however, and was about well on the 7th, seven days after the trouble began on that side, the condition terminating by resolution.

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Case III. Miss D., aged 31. Is subject to frequent attacks of tonsillitis and quinsy. In December, 1900, I removed the upper half of the left tonsil to prevent recurrence.

Early in January she had an attack of quinsy on the right side which lasted five days. Two days later an abscess formed in the left posterior faucial pillar and was opened by incision. This process was repeated twice at intervals of six weeks. Between the second and third attack I removed the upper half of the right tonsil. She has not had quinsy on either side since the operation on that side, but had these three peculiarly located abscesses just mentioned. The abscess cavity in each case was about the size of a chestnut and situated half way down on the posterior faucial pillar. I have never seen a similar condition, though it apparently corresponds to what Moure calls posterior peri-tonsillitis, the other variety being according to his classification antero-superior peri-tonsillar abscess. This patient has gone almost a year now without an attack, but we await the onset of winter with some apprehension.

Discussion.

Dr. Richmond McKinney, Memphis: While the essayist has quite thoroughly reviewed the subject of peritonsillar abscess and its treatment, I should like to add my testimony to his in confirmation of some of the points made in the paper. Undoubtedly, peritonsillar abscess is the most painful of all the acute affections of the throat. From personal observations I am led to believe that the streptococcus is the active etiologic agent in most of the cases of this condition, in fact, I believe that it is the causative germ in the majority of the acute infectious phlegmons of the throat. The intense pain and difficulty in swallowing occasioned by peritonsillar abscess make it imperative that relief be afforded the patient at once. But herein lies a great difficulty. If pus has formed, and the abscess can be located and opened, relief is almost instantaneous; but frequently it is very difficult, and at times apparently impossible, to locate the abscess, and frequent incisions into the tonsils at every available site may be productive of nothing other than a flow of blood. This hemorrhage, however, may in itself afford some relief, since it lessens congestion. The site at which most peritonsillar abscesses point undoubtedly is in the supratonsillar fossa, and incision should preferably be practiced in this region. Failure to find pus in a good many of my cases, even after repeated incisions, has convinced me that a number of these cases of peritonsillar inflammation go on to a certain degree of inflammation, and then subside without pus formation. Cases of this character are usually much longer in getting well than those where pus forms, and the abscess bursts or is opened. No form of internal medication has seemed to be of any avail, in my experience, with this disease. Nothing but the knife is at all effective in its treatment, and latterly I have been using with considerable satisfaction the electro-cautery knife, as advocated by Moure, in preference to the cold steel.

Dr. William Krauss, Memphis: The essayist has covered his subject in a very efficient manner, and I can add nothing to what has been said.

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Dr. James L. Andrews, Memphis: Last Mardi Gras I had an experience with a case that I desire to report as having some bearing upon the subject of peritonsillar abscess. The patient was a woman, who had been indulging in the frivolities incident to Mardi Gras night, and had been out in the damp for a number of hours running around in the light clothing usually worn on this occasion by those who are *en masque*. When I was called to see her the woman was suffering with difficult breathing and painful deglutition, and when I examined her throat, the whole roof of her mouth, including the naso-pharynx, seemed to be involved in a tense swelling. Having no other resource at command, I made several incisions with a bistoury into this mass, which was followed by a flow of blood and some watery exudate. The next morning the woman was quite relieved, and convalescence was uninterrupted. I should like to have some light thrown upon the nature of this trouble.

Dr. McKinney: I should, in default of any other explanation, regard the case reported by Dr. Andrews as one of acute inflammatory edema.

Randolph Building.

ANTIMICROBES versus ANTITOXIN.

BY E. H. RANDLE.

HERNANDO, MISS.

THE committee of the Tri-State Medical Association on my claim of priority as to suggestion of serum therapy at the November meeting reported favorably; that is, that I was the first to suggest that to transfuse the blood of an immune into the veins of a person not immune, would give the same immunity to the second person as that possessed by the first.

I also suggested the probability of its being an antimicrobe rather than an antitoxin that gives immunity. On this Dr. Krauss* reported: "This claim is erroneous and unsupported by any laboratory evidence; on the contrary, its assumption will reopen the fallacy of spontaneous generation." The suggestion can hardly be called a "claim," but I shall offer no objection to that use of the word. I will, however, give some reasons for the suggestion. It seems that the whole section of country where an epidemic has recently ravaged is immune for a while from a renewal of such ravages by the same epidemic. We cannot prove this, but facts look that way, and so does analogy. After the locusts or other like pests have ravaged a section for one or two seasons they

* Chairman of committee to report on Prof. Randle's claim of priority in suggesting sero-therapy.

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disappear, and it is impossible for them again to flourish in that section for several years. Some antagonism must spring up against the microbes of an epidemic. Is it a disease, or an antitoxin, or an antimicrobe?

The late C. V. Riley, U. S. entomologist, established the facts about the locusts, and he further found, on taking leave of a section for their Rocky Mountain home, all the locusts were sick, and that other swarms starting out from the Rockies afterward, never went over the same sections from which the sickly ones departed. If the wind blows them in that direction, they will light until the wind subsides. The antagonism to a return of the locusts lasts only a few years; the same with the epidemic. It is an epidemic that drives away the locusts, and analogy suggests that it is an epidemic among the microbes of a contagion that drives it away. To say the contagion runs its course and plays out is to beg the question. The antagonism left in a person to any contagion he has suffered is generally permanent; that left in a section of country is temporary. Now, an epidemic among the microbes of yellow fever is surely more like an antagonism of antimicrobes than one of antitoxin, for it is generally conceded that all contagions are of microbic origin.

If a person lives a few years in Cuba, or Vera Cruz, or New Orleans, he acquires a partial antagonism to the yellow fever, so he either will not take it at all, or else will suffer little when taking it. The Cubans used to say the yellow fever was the best friend they had, for it killed ten Spaniards to one Cuban. Wherever any force of physics or of biology finds a continuous existence, or a native habitat, there will be found strong antagonistic forces. Cuba is the habitat of yellow fever, and in Cuba that fever meets its strongest antagonism. As people living there acquire this antagonism without suffering from the fever, it does seem that this antagonism is something that increases outside of the human system, as well as in it—something that grows and multiplies, which is a characteristic of all life, but not of antitoxins.

Most adults have acquired an immunity from scarlatina, diphtheria and some other afflictions. How did the antitoxin (?) get into such people? To say they are older and have greater

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powers of resistance is begging the question. The immunity is something that gradually increases to a certain degree of equilibrium and then holds its own. Nature is full of analogies. The English sparrows have increased to a certain extent and seem now on the decrease, but will always continue in abundance. The country supports about the same number of jay birds all the time, and their further increase is checked by certain antagonisms—living enemies and a want of food—so with all nature.

No contagion is known but what some people are found who will not take it. They must have either inherited the antitoxin or acquired it in life; more probably they caught the antagonism before they caught the contagion; perhaps while waiting on others, antimicrobes being inhaled, multiplied in their bodies, and thus gave immunity. It is more reasonable, I think, than to suppose an antitoxin was inhaled.

I do not know exactly what is meant by an antitoxin, as applied in contagion. Some believe it is the product of the microbes, and not the microbes themselves, that prostrate the patient; that the disease runs its course and leaves the poison in the system, which gives immunity from further attack. But if this toxin is poisonous only to the person, how can it prevent an attack of a fresh colony of the same kind of microbes? Others maintain that the microbes themselves cause the prostration; that their products are poisonous to the microbes themselves, and end the disease by destroying them, and remain in the system to give immunity from further attacks of the same disease. We acknowledge that there is an antagonism there, but is it an antitoxin, or an antimicrobe, or something else? I am inclined to believe it is an antimicrobe, and claim to have been the first to suggest this opinion. Dr. Krauss says, categorically, it is an antitoxin. An antitoxin is something that poisons a poison, or neutralizes a poison. I judge he uses the word in the sense of its being a poison to the microbes of disease.

If it is an antitoxin, it differs from all other toxins, for, as far as is known with regard to all other toxins, they are in some way eliminated from the system. A few, such as arsenic, become fixed in certain tissues, and remain, perhaps, for life;

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then, it is strange that every specific poison left by a contagion should remain in the patient for life, when so few other poisons do.

What kills one insect is death, in general, to insects. What is poisonous to one plant is poisonous to most plants. All beasts and birds suffer, to a great extent, like results from like poisons. There is a seeming exception to this: birds that have crops suffer but little from certain poisons that kill such as are without crops. Perhaps the poison is eliminated or neutralized in the crop, so it never reaches the circulation or affects any vital organ. A hypodermic injection of the poison would doubtless have the same effect on the chicken as on the hawk. Now, it is singular that a poison should remain in an individual for life, and be death to only one species of microbe and harmless to all other microbes. Listerine and all other antiseptics in use are destructive alike to every species of microorganism. There possibly may be some exceptions, but I am not acquainted with them. In one immune from the measles there must be assumed a poison to the measles bacillus and harmless to the smallpox bacillus, which is contrary to all analogy. The same remarks apply to all immunes, by whatever means the immunity may have been acquired, and to sections, in many cases, where an epidemic cannot spread. There are many difficulties in the way of the antitoxin theory, and we cannot agree that it is yet proven.

The antimicrobic theory cannot be claimed as satisfactory, but that is more plausible than any other.

There are many microbes in the human system whose office, or business, is unknown. They do not seem to work any injury to the person; perhaps they are of some benefit. Who can deny that they are antagonistic to certain bacteria of disease? It is well established that there is one kind of microbicidal cell, namely, the phagocyte. These attack all microorganisms that float in the blood or are found in the body. It might prove a question difficult to answer, as to whether these are parasites of the blood, a constituent of it, or intruders into a field where they can live fat on stray microbes deleterious to man. At any rate, they are useful to man, and act as antimicrobes, whatever way the question may be answered.

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There possibly may be microbes infinitesimal to those of microscopic size, and of many varieties, scattered everywhere through the air and through the animal body. To deny that there may be microbes so small that hundreds, and even thousands, may infest an ordinary bacillus, is only to admit that our conceptions are limited by our experience. We cannot deny their existence, and possibly we may never be able to prove it. The larger the telescope the more stars are discovered; the more powerful the microscope the more tiny microbes are discovered. Analogy suggests the existence of such. Chemists claim the existence of corpuscles a thousand times smaller than hydrogen atoms (J. I. Thompson, Cambridge University).

Ordinary bacteria are discovered only by the most skillful opticians, yet they are on and in everything around us. The gaping wound very quickly absorbs them; all fruits and vegetables, and flesh not living, cheese, and butter, and milk, are at once attacked by bacteria of some kind, which continue their ravages till the object attacked is completely dissipated. These bacteria, then, do not generate an antitoxin to themselves. In the case of suppurating wounds, boils and contagions, something antagonizes the devouring microbes, for they usually cease without producing death. In the case of the boil and the wound, it seems unreasonable that the products of the bacteria are destructive to them, for the organisms continue to work and produce pus until the sore is cleared of this pus, then healing comes without any antitoxin administered; perhaps the phagocytes devouring the bacteria, or perhaps some other antimicrobe does the work. If it is the vital force, it is strange that this force is so much stronger after the bacteria have ruined much flesh, than at the beginning, when the bacteria were weak. The theory, to be true, needs no spontaneous generation of antimicrobes, for they can be accounted for in many other ways.

Raveners in all life, whether beast, or bird, or serpent, or fish, or insect, or parasite, vegetal or animal, have some choice in the selection of their prey, and the lower the grade the more specific the choice. The silkworm scarcely preys upon anything else than mulberry leaves; some worms prey on hickory

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leaves, others on oak leaves; the tobacco worm exclusively on tobacco leaves, the tobacco fly on the pollen, or honey, of the Jamestown weed, the bagworm rarely on anything else than cedar or arbor vitae, and, I think, there is only one kind of bird that preys on the bagworm. So all devourers have some choice as to their prey. It seems still more the case with microbes. On the other hand, toxins and antitoxins have but little choice, as already shown.

There is nothing vegetal or animal but what is preyed upon by both large and small raveners: bears and fleas prey upon hogs, foxes and mites upon chickens, beetles and microbes upon grasshoppers, cattle and blight upon many fruit trees, birds and bacteria on bees and ants. Then, shall we say that nothing large or small preys upon the microbes of contagion? Are they the only exception, in all biological science, to the law of being a prey, to the law of antagonism?

> "Men have fleas on their backs to bite 'em,
> And lesser fleas on these ad infinitum.

It seems that every species of organism is subject to disease in some form, in both vegetal and animal kingdom. Blight, rust, smut in wheat, among plants; contagions among bees and Rocky Mountain locusts, among insects, and so on. But it is generally agreed that all contagions, and most of other diseases, are caused by microbes of some kind. Now, if there are no antimicrobes, these microbes of disease, and all other microbes, are an exception to the law. They are the only organisms on which nothing preys; the only organisms not subject to disease. Where there is the antagonism that destroys a contagion whose bacteria are floating everywhere in earth, air and water, can any antitoxin multiply sufficiently to destroy the plague? Antimicrobes having a rich living on their favorite prey, may multiply and grow enormously, amply sufficient to devour all the microbes of the prevailing epidemic.

The phagocytes may keep out of a person any specific antimicrobes till the person is attacked by measles, for instance, then the phagocytes having heavy work, the antimicrobes have an easy task to enter in, and finding a rich pasturage, destroy the measles germs before these germs destroy the person. Having once ensconced themselves in the person they remain, living, perhaps, on the effete matter of the system, harmless to the immune.

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TETANUS.*

BY JAMES S. RAWLINS, M.D.
DANCYVILLE, TENN.

I AM induced to report this case for several reasons. First, on account of its prolonged and aggravated character and happy recovery. Second, this disease has rarely been before this association since the discovery of its specific bacillus by Nicolaier and the introduction of the antitoxin treatment, and a discussion of the merits of this as well as other methods of treatment is desirable.

The patient, Anderson Wrenshaw, white, male, aged 10 years, while at play stuck a stick in the dorsum of his foot near the heel. The stick, which was about an inch long, pointed, and as large as an ordinary lead pencil, broke off and was retained in the wound.

On June 27 he applied for treatment, and was found with the usual symptoms of tetanus—stiffness of neck and back, with sardonic features. Upon questioning his father, a highly intelligent clergyman, I found that there had been some stiffness about his neck and back for twenty-four hours or longer, which was regarded as an approaching attack of mumps, other members of his family having recently had the disease, which would make the period of incubation since the reception of wound about six days. With the assistance of Dr. R. B. Davis he was completely anesthetized and a deep incision made through the old wound, which had closed, and the fragment of a retained piece of wood about half an inch long removed. The wound was cleansed, swabbed out with carbolic acid, and dressed with an ethereal solution of iodoform. The patient was ordered to a darkened and absolutely quiet room, and was given to open his bowels 5 grains of calomel and bi-carb. soda each, to be followed by a saline cathartic, or an enema if it did not act in a reasonable time. There was also ordered 8 grains of hydrate of chloral and 16 grains of bromid of potassium every three hours until quiet or asleep.

On the following morning, June 28, upon visiting him we found that he had passed a restless night, with tonic spasm of muscles of trunk and neck, and was threatened upon the least noise or excitement with general convulsions. Pulse 120, temperature 101½°F.

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The wound was again dressed under chloroform, swabbing out the cavity and dressing with iodoform gauze. Treatment continued as before, increasing the chloral hydrate to 10 grs. and the bromid of potassium to 20 grains every three hours, with directions to push the chloral and bromid to hypnotism if necessary to prevent general convulsions, also to have all the concentrated nourishment he could possibly take.

Upon the third day, finding the chloral and bromid insufficient to prevent the spasmodic waves which frequently passed over the patient's body, chloroform by inhalation was used whenever a spasm threatened. While the patient was constantly in a state of opisthotonos, and frequently in an arch resting upon his occiput and heels, he also was frequently subjected to violent clonic spasmodic waves which could be only kept in abeyance or lightened by the inhalation of chloroform, which was kept by his bed and ready for inhalation at all times.

Fourth day, treatment continued as before. Commenced rectal alimentation, on account of inability to take food by the mouth.

Fifth day, nervousness had increased so that the least noise, light or touch would bring on convulsions, axillary temperature 102½°F., pulse 130 to 140, and at times imperceptible.

Sixth day, the patient was showing so much prostration, with pulse so feeble, it was decided to discontinue the chloral and bromid and substitute morphin and atropia, which was given, ¼ gr. morphin, $\frac{1}{150}$ atropia, to be repeated every three hours until it produced some narcotism. Under its use the pulse improved, but the atropia producing some hallucinations, had to be given less frequently—every six hours.

On the ninth day of treatment, having procured some antitetanic serum, we used the first dose of 10 cubic centimeters, which was repeated every six hours, until four doses had been given, at the same time continuing the previous treatment.

I will not pursue the treatment of this case from day to day, but the same course of treatment was kept up, chloroform as needed, morphin and atropia as much as could be safely given, persistent alimentation, and catheterism as needed, as he had been unable to void his urine since we commenced the use of morphin.

On the twelfth night of his attack he had a very violent convulsion involving his diaphragm, and but for the presence of Dr. Davis, who resorted to artificial respiration, would, no doubt, have died.

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From this time his improvement commenced, which was very gradual, almost imperceptible, chloroform having to be used frequently to prevent spasms, until the sixteenth day of attack. The morphin and atropia was suspended, by gradual reduction, on the twenty-fourth day of attack. He was able to stand on his feet on the thirtieth day, but his muscles, especially those of his legs, were easily startled, and subjected to jerks and spasms for some time after.

For some time he had a bed sore on the back of his head, the result of continued opisthotonos.

The average amount of morphin required, after getting under its influence, was 1½ gr. per day. The average amount of chloroform per day, judiciously used, was about 2 oz.

In the treatment of this case we endeavored to carry out the following principles:

1. Isolate the patient.
2. Cleanse the area of infection to prevent the continued absorption of the alkaloidal poisons.
3. Antagonize the poisons that have already been absorbed by the use of injections of antitoxin.
4. Combat the spasms by chloral, morphin and chloroform.
5. Maintain the strength of the patient, and attend to the patient's bladder and bowels.

The value of antitetanic serum not being sufficiently affirmed, as the antitoxin treatment has been in diphtheria, I did not feel disposed to use it, except as a last resort, or as an auxiliary treatment, and did not commence its use as soon as I would again under similar circumstances. In this case, if nothing more can be said for it, it at least was harmless, not even producing an induration at the points of insertion, and while given at a period when the poison, no doubt, had spent itself in the production of organic lesions, still, the father of the patient, an eminent clergyman, who has had a great deal of sick-room experience, is very positive that after the second dose of serum he could perceive a decided improvement, or giving way, as he terms it, of some of the most violent symptoms.

In the treatment of another case, in addition to the course pursued, recognizing that the disease in its incipiency is a local one, and that the germs do not sporulate even at a moderately

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low temperature — 55°F.— I would, in addition to cleansing and wound disinfection, attempt their destruction by injections into the wound and surrounding tissues of a solution of carbolic acid or bichlorid of mercury, and at the same time, during the early stage, keep applied to the wound a refrigerant mixture, in order to reduce the local temperature below the degree of segmentation, thereby preventing their growth and the development of their toxins.

As to the use of antispasmodics, I think that chloral and bromid of potassium should be confined to the first stage or few days of the disease. In addition to the difficulty of their administration, due to bulk and bad taste, they are too depressing to the circulation to be continued, in the large doses required, beyond a few days. Of this class, chloroform I consider *the remedy par excellence*, to be used by inhalation, at all stages, without fear or reserve. It has no bad after effects, and improves the heart's action by relaxing muscular spasm and opening up the arterial conduits. The patient, who is generally sensible, turns to it as his only hope from impending death. But anticipate the spasm, if possible, as respiration is too shallow after the muscles become fixed in spasms for the remedy to do any good.

One more point and I have finished — the nomenclature of this disease. Some even recent authors still use the terms "traumatic" and "idiopathic tetanus," and ascribe the idiopathic type to exposure to cold, sleeping on damp ground, excessive fatigue, etc. All of these so-called idiopathic cases are no doubt due to some hidden or overlooked traumatic infection through which the germ has gained access to the system, but has been successfully resisted by the phagocytes, until some cause, such as cold or excessive fatigue, depresses the vitality of the individual, lowering the resisting power of the body cells, when the bacteria, or their tox-albumins, gain the ascendancy and produce the symptoms known as tetanus. This also accounts for the milder course of this so-called idiopathic type. It is known of this disease that the longer the stage of incubation, the milder the attack. A large number of these cases may have successfully resisted the infection for quite a while, until it became so attenuated as to produce only

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a mild attack, when the depressing causes placed it in the ascendency.

In conclusion, I wish to state that I was very ably assisted in the treatment of this case by my friend, Dr. R. B. Davis, of Dancyville, and to whose watchful care in carrying out the details of treatment the recovery of the patient is to a large extent due. The immense amount of attention required can hardly be estimated, when every hypodermic injection, catheterism and nutrient enema had to be given under chloroform for several weeks. I am also under obligations to my friends, Dr. Powell, of Eurekaton, and Dr. Ware, of Stanton, for a visit each and valuable suggestions.

Discussion.

Dr. John B. Murphy, Chicago: I have nothing special to offer on the subject of tetanus, but the more I see of it the more I dread it. Twenty years ago, when tetanus was treated by nerve stretching, I thought I could do something for it and had several recover, but later developments showed that this method of treatment was as fallacious as any other. We have two forms of tetanus—acute and chronic. In the chronic form there is a long period of incubation, with mild onsets and long periods between the opisthotonus; while in the acute form, where the incubation period is short and it comes on very actively, the chances of recovery are hopeless. Chloroform is certainly the treatment for the convulsions. When we use tetanic serum as a prophylactic, or in treatment of the early symptoms, we may hope to have some good results.

Dr. W. A. Evans, Chicago: I can only add some points made in observation of the use of serum in the early stages of tetanus. It is then only that we can hope for benefit from its use. Tetanus may arise from nail wounds made around stables, but many of those who receive such wounds never develop the disease. I agree with Dr. Rawlins in the use of chloroform until the convulsions have been overcome, and also that the trouble is a local one due to a specific organism.

Dr. F. D. Smythe, Memphis: I have had two cases of tetanus under my care in the last two months. Both cases appeared in men of middle age, and both had compound fracture at the ankle. The wounds were covered with dirt. In the first case the wound was thoroughly cleansed, but tetanus was contracted and he died on the eighth day. In the second case, amputation was advised but declined. Later he developed tetanus and died.

Dr. W. D. Haggard, Nashville: I can add nothing to what has already been said on this subject. I have had some experience with this disease and its serum treatment, but I lost both cases that I treated.

Dr. W. C. Dunaway, Little Rock, Ark.: One year ago I had the following case: A boy twelve years of age stuck a nail in his left heel; his mother washed his heel off with soap and water and a little turpentine. Later the place festered and she picked it with a pin. The wound seemed to heal up. Three weeks

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later the boy fell and sustained some slight injuries. The next day he was up, but on the third day complained of difficulty in swallowing. The mother applied some turpentine, but the next day he could hardly swallow. When I was called to see him he had fever, and from the history I recognized the condition. I could obtain no antitoxin, so I used the chloral and bromid treatment. The case grew worse, with increase of symptoms, and later died. I would like to know if the nail or the fall was the cause of death?

TIMELY SUGGESTIONS.*

BY JACOB DEUTSCH, M.D.
MEMPHIS.

THE official report of the autopsy and the real cause of the death of our much lamented President, Wm. McKinley, reads as follows: "Gangrene of both walls of the stomach and pancreas following gunshot wound."

Autopsies scientifically conducted are of great value, not only to the medical profession, but they are also of great benefit to the human family at large. A post mortem examination will not only reveal the real cause of death; it will either confirm, or it will correct our diagnosis at the sick bed, but it will also enlighten the surgeon and the medical man of possible errors and omissions in the treatment of the case, to be avoided in the future in other similar cases.

Despite the great strides and advances of the medical science in all its branches, especially during the latter part of the nineteenth century, we have to acknowledge that medicine, and to some extent also surgery, is not as yet an exact science; is more or less empirical. Long years of experience in practice will therefore greatly assist the practitioner to operate with greater skill, and more successfully combat and cure a disease. The writer, a humble general practitioner, has not the remotest intention to criticise the most able talent and the attendants to our late President, he merely calls your kind attention to his suggestions in gunshot wounds in the stomach and in the intestines, whereby he hopes to have the mortality rate considerably lowered. His first idea in form of suggestion in treating stab wounds, and especially gunshot wounds in any cavity of the human body, and particularly into the chest and

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abdomen, is the time-honored expectant plan and conservatism. There are numerous cases on record, where stab and gunshot wounds in the stomach left to nature, ended in perfect closure of the orifice and healed up, *id est*, by forming a circumscribed peritonitis and exudation, which walls in the wound and seals it up hermetically. We call that process *vis medicatrix naturæ*, which the surgeon ought to imitate.

The term "gangrene" is applied to the death of living tissues, and the immediate cause of the local death is deprivation of an adequate supply of nutritive material. We experience gangrene, that most dreadful sequel, mostly after amputation, despite all antiseptic precautions, when either not all necrosed and lacerated tissues have been removed, or when the stitches in the stump are applied too tightly, and the more so in wounds of the stomach, on account of its anatomical and histological condition. The walls of the stomach, when deprived of sufficient blood supply, will necessarily become necrotic and gangrenous, on account of formation of stasis and thrombosis in its blood vessels.

Pepper, in his System of Medicine, defines gangrene as "a pathological condition consequent upon interference with either the inflow or outflow of blood in the wounded part, *or below it*, and such interference with the circulation by plugging or ligation of blood vessels, or occasionally by the constriction of badly applied sutures and dressings, in consequence of which stasis occurs in the vessels of the affected area on account of the pressure exerted by the effusion and exudation upon the arteries and veins of the adjacent parts, thereby causing gangrene or mortification." The writer is therefore of the opinion that surgical interference in gunshot wounds in the stomach is only indicated where there is strong suspicion or evidence of considerable hemorrhage in the cavity of the abdomen, or of laceration of some intestinal coils or collapse. Here laparotomy with *prompt resection of the lacerated coils*, or in wounds in the walls of the stomach *through excision of the contused and necrotic edges, before applying stitches*, is then the very best and safest procedure. Sutures, however carefully placed in contused or necrotic tissues, will only cause additional injury by infecting the surrounding healthy tissues,

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and will only lead to septicemia or gangrene. Small bleeding in the abdominal cavity does not require laparotomy. The great absorbent capacity of the peritoneum, reinforced by the large army of phagocytes, will in most cases dispose of the blood or extraneous matter, and even if the blood should be present there in some larger quantity, we know that in a great many instances blood will eventually become encysted and thereby comparatively rendered harmless.

In his address some months ago before the British Medical Association on "Some Surgical Lessons from the Campaigns in Cuba, South Africa and the Philippines," Sir Wm. Thomson discoursed on the subject of gunshot wounds in the abdomen, and proved that the conservative treatment in these cases resulted in more recoveries than does the immediate opening of the abdomen and search for injuries of the intestines. He recorded that cases where undoubtedly the stomach and other intestines were perforated, recovered without laparotomy; except in cases where great internal hemorrhage, etc., was suspected, it was wise to pursue the conservative course. He also expressed himself as opposed to the search for the lodged bullets, unless such give rise to trouble. The outcome was in most cases favorable, and absence of such infectious diseases as tetanus, pyemia and gangrene was noted.

The late Prof. Nussbaum, surgeon-general of the German army in the Franco-German war, 1870 to 1873, stated in one of his lectures to his class at the University of Munich, "The fate of the wounded rests in the hands of the one who applies the first dressing."

Dr. G. W. Penn, of Humboldt, Tenn., in a communication to the *Phila. Med. Journal*, October 12th, 1901, relates a similar case of gunshot wound, which healed by the expectant plan of treatment. He concludes as follows: "As one of the lessons of the President's case, would it not be well in such wounds to first excise the necessarily contused and possibly infected edges elliptically, much as an ulcer might be excised, before uniting by sutures? Would gangrene of the stomach have been so likely had this been done?"

Another: "Chicago, Oct. 4, 1901. A man suffering from the same kind of wounds as were those of McKinley, is at

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the St. Elizabeth's Hospital. Peter Arp attempted suicide and shot himself through the stomach. Instead of closing the wound by sutures, as was done with the President, it was left open to prevent gangrene. No solid food was given him for some weeks, and the man recovered!"

In connection with the expectant plan, we must also take into consideration the effect of shock on the nervous system, on the heart and on the blood vessels, primarily produced by the assaulting weapon, knife or bullet. As much as we know of shock, we define it as a paralytic condition of the vaso-motor system, and especially of a paresis of the nervus vagus, due to a general exhaustion of the nervous centers consequent upon an extremely violent impulse, which is followed by more or less thickening of the blood, according to the severity of the lesion.

We have also to take into consideration idiosyncrasy, or susceptibility of some individuals to the bearing and the effect of an injury, shock, hemorrhage, anesthesia and surgical operations. As a rule women will stand and survive all these ordeals better than men, elderly men in particular. It is a well-known fact that general anesthesia in persons with a weak or diseased myocardium is not only badly borne, but the effect of the anesthesia will even some days after its administration prove fatal.

Surgical interference, as laparotomy, closely following the primary injury, will most necessarily give rise to additional shock, which will greatly interfere with the natural healing process and will even eventually menace the life of the patient. Surgical interference in shot and stab wounds in the abdominal cavity shall therefore only take place upon strong evidence of internal hemorrhage or of laceration of intestinal coils.

The fourth of these suggestions is more an appeal to you, to the medical profession at large and to the men in the laboratory, to find out any material substance or compound, preferably of an absorbent nature, which substance applied on a wound of the peritoneal surface of the stomach, large or small intestines, to the gall bladder or to the peritoneal portion of the genito-urinary organs, shall have the effect of hermetically

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closing up such wounds and to dispense with the harmful stitches, leaving it then to nature to heal such wounds.

We are all acquainted with the healing properties of collodion with or without iodoform in superficial wounds.

A zinc oxide antiseptic plaster will replace sutures in most of the minor surgical wounds; it has even been found effective to bring union after minor surgical operations.

You all know the value of the Murphy button—in fact the beneficial action of the Murphy button has now passed the experimental stage, and it is gratifying that since a few months the button is improved now by an absorbent material.

During the last two years experiments have been conducted at the Vienna, Austria, surgical clinic under Prof. Gersuny. There it was found and practiced since with unfailing success, that paraffin (white vaselin) injections into cavities of organs in the body caused either on account of natural defects, holes or depressed scars, promptly replaced the original bones and tissues in functional and cosmetic way; for instance the gap in cleft palate, also filling out the space after resection of bones, or after enucleation of the testis, and in a score of other defects. It is to be hoped, therefore, that in no distant time a material will also be found, which applied on the surface of any peritoneal wound, will close that wound properly and will thereby replace the suture and its evil effects.

To sum up, the writer suggests:

1. To use as much as possible the conservative plan in stab and gunshot wounds in cavities of the body, particularly in the abdomen.

2. To relieve and to minimize the baleful effect of the shock with all the means at our command.

3. If laparotomy is strongly indicated, then not to omit to resect or to excise the lacerated and contused parts and edges of the wound.

4. Finally, an appeal to find out any material or substance which will promptly replace sutures to the intestines.

How many valuable lives could annually be saved, if such a substance could be found to replace the sutures.

How many thousands stricken down with stab or gunshot wounds in the abdominal cavity, also cases of perforating

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ulcus ventriculi or perforating ulcers in consequence upon typhoid, typhus abdominalis, dysentery, and perforating ulcers due to tuberculosis of the intestines, could then be rescued from an early death.

PULMONARY LITHIASIS.*

BY JAMES S. RAWLINS, M.D.
DANCYVILLE, TENN.

I CALL your attention to this case of pulmonary lithiasis on account of its rarity, the large number and diffuse deposit of the concretions, the slow process of breaking down of the encapsulating tissues and extrusion of the calculi, its close resemblance to phthisis, with complete recovery of patient.

I have gone over the accessible literature upon this subject for fifty years or more past, and have been unable to find either report of case or article upon this subject, hence I regard it as an exceedingly rare condition and worthy of report as one of the curiosities of medicine.

Dunglison, the only authority I have that mentions the term lithiasis pulmonorum, defines it as the formation of concretions in the lungs, occasioning at times litho-phthisis.

I was called to see Luther Farris, male, aged 40, farmer, previous history good, family history good. The patient was confined to bed and stated that he had been troubled for some two months or longer with cough, hurried breathing, easy fatigue, and gradual emaciation. Physical examination of his lungs revealed feeble, prolonged expiratory murmur, with scattered, dry bronchial râles. Not sufficient dullness for tubercular deposit, although all symptoms indicated incipient tuberculosis, and he was treated accordingly. It is useless to follow the minute history of the patient from day to day, but I will state his general condition and the course of the disease. From a stout, active farmer of 165 lbs. weight, he became bedridden and reduced to 125 lbs. He had hurried and difficult respiration, with a very violent, annoying cough of paroxysmal character. About the third month of his sickness he expelled during a violent paroxysm of coughing the first calcareous concretion, which was expelled with such force as to fly across the room. This was followed by others during similar spells of coughing, sometimes several a day, for

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two months or longer—several ounces having been expelled in the meantime. These calculi varied in size from a coffee bean to a grain of wheat or smaller, and were very hard and generally rough, some being complete casts of portions of the bronchus and air cells. After coughing up these concretions for several months they became less frequent, with a gradual subsidence of the cough, until twelve months after his acute attack he appears to be in his usual health. Now, two years since his attack, he is free from cough and in fine health.

My son, Dr. J. S. Rawlins, who treated the case with me, took great interest in it and kept a minute report of the case as well as a large number of the concretions, which were misplaced or lost during my son's illness. I have one or two of the concretions left, which can be examined by any one who desires.

Discussion.

Dr. Alfred Moore, Memphis: This is a condition I have never found in a living patient, but in the dissecting room I have found a good many cases, and have no doubt but that they exist more often than we discover.

Dr. Rawlins, closing; I have no further remarks to make, other than to state that this patient prior to the onset of his condition was strong, robust and weighed 175 pounds. He was reduced to 125 pounds. No other trouble followed, and the patient went on to complete recovery.

PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

Erythema Bullosum et Gyratum.

At the "Vienna Gesellschaft" Neumann (Cor. *Med. Press & Cir.*, vol. 72, no. 3264) exhibited casts of a rare case of erythema bullosum et gyratum occurring on the dorsum of the foot and the palms of the hands of a patient who had been treated for some time with arsenic for chronic furunculosis. The patient was given three minims of Fowler's solution at first, which was gradually increased.

When admitted three months later under Neumann, the patient's face was swollen and puffed, the eyelids red and par-

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tially covered with a crust. On the inner surface of the legs were small groups of bullæ, extending to the anus, while the scrotum had a red weeping eczema. On the dorsum of the left foot and in the palm of the left hand were large pustules, with red circumferences. In the urine there was found a moderate quantity of arsenic.

This is a case of peculiar idiosyncrasy, as the patient during the whole of the treatment did not take more than ten, or fifteen at the outside, of the Asiatic pills commonly used in the Vienna clinics, and composed of—acidi arseniosi 0.5 gramme, piper nigr. 5 grammes, gum arabic 1 gramme, aqua q.s., fiat. pil. 100; this is equal to 6 milligrammes of arsenious acid in each pill. Therefore the total amount of arsenic taken would not exceed 0.15 gramme or 2.215 grains, which is a very small quantity to produce such extensive morbid changes.

Lang said that he had drawn attention to this subject before, which had brought him into conflict with his colleagues. In one case some time ago, he said hyperkeratosis cutis was produced by a very small quantity of arsenic given for psoriasis; in another the results were somewhat similar to those obtained in Neumann's case, where large patches of exfoliation in both hands and feet occurred.

Neumann replied that the doubt was justified in the case of arsenic given for psoriasis, as frequently such cases developed hyperkeratosis when no arsenic was administered.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

A New Procedure for the Radical Cure of Hernia.

H. B. Delatour (*Brooklyn Med. Jour.*, vol. 15, no. 12) thus describes an operative procedure devised by him:

An elliptical incision is made about the base of the tumor through the skin and subcutaneous tissues down to the sac, the sac is then freed to the ring, an incision is now made through the abdominal wall in the median line about an inch or an inch and a half below the edge of the ring and the peritoneum

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opened. The finger is then introduced and swept around the ring, *within the abdomen*, to be sure that there are no adhesions and then with a pair of scissors the incision is carried on either side of the fibrous ring to a point in the median line an inch or so above the upper limit of the ring. This removes the sac with its fibrous neck or rings, and its contents unopened. We have now to deal with these; the ring of hardened tissue forming the neck of the sac may now be incised so as to allow the examination of its contents. The omentum should be separated as far as possible and then ligatured and cut away; the intestine is to be treated according to its condition, if healthy returned and if gangrenous resected, an anastomosis made and the bowel then returned.

The closure of the abdominal wall should be done as follows: First the peritoneum and the posterior sheath of the rectus should be sewn with a continuous suture, next the edges of the rectus, which were exposed when removing the sac, and its anterior sheath should be united with chromicized catgut and the skin edges by a subcuticular suture of silk.

The advantages claimed by the author for this operation are:

1. There is a considerable saving of time and much less handling of tissues.

2. It takes away from the abdominal cavity the contents of the sac until they have been inspected so that gangrenous intestine or omentum is not necessarily handled. If the intestine is gangrenous it can be resected without being withdrawn from the sac. The same is true of omentum.

3. It gives a firm closure of the wound with the tissues approximated in proper layers.

Cholecystectomy for Gall Stones.

C. L. Gibson (*N. Y. Med. Jour.*, vol. 79, no. 22) sums up his position in regard to cholecystectomy for cholecystitis and cholelithiasis as follows:

In properly selected cases it is an extremely simple and safe operation.

It is a *curative* operation, doing away with subsequent attacks of cholecystitis, and, more remotely, of renewed stone formation.

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It eliminates the disagreeable possibilities of long-continued biliary and mucous fistulæ.

It is indicated in certain technical conditions, such as atrophic or (for drainage) inaccessible bladder, obliteration of the cystic duct, or impacted stone in the cystic duct, and in hemorrhagic conditions of the gall-bladder.

It is a prophylactic measure against the development of carcinoma on the site of long-standing irritation.

It offers the prospect of a shorter and easier wound-healing and convalescence.

It is not to be employed indiscriminately, but has its proper limitations and contraindications.

Dissecting Abscess of the Abdominal Wall Producing Deformity Simulating Pott's Disease.

J. B. Bullitt (*Jour. Amer. Med. Assn.*, vol. 37, no. 22) says:

1. Abscesses of the abdominal wall without any connection with the abdominal cavity occur most frequently as a result of typhoid fever and readily heal after incision and drainage.

2. The larger dissecting abscesses of the abdominal wall communicate at their inception with some portion of the intestinal tract, occur most frequently as a sequela of typhoid fever or appendicitis, and result from an adhesion between the parietal peritoneum and a viscus, with perforation of the latter. After rupture such abscesses follow the course of fecal fistula, healing sometimes spontaneously or as a result of incision with drainage only after the communication with the intestine has become obliterated. The obliteration sometimes occurs spontaneously, sometimes must be brought about by operative procedure.

3. A dissecting abscess may produce symptoms and deformity simulating Pott's disease; on the other hand, Pott's disease with abscess appearing after an attack of typhoid fever may be confounded with abscess resulting from the typhoidal process.

It indicates good luck to find a horseshoe in the road, nails upward—that is, if you see it before you run over it.

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OPHTHALMOLOGY.

UNDER CHARGE OF A. G. SINCLAIR, M.D.

Professor of Ophthalmology, Otology and Laryngology, Memphis Hospital Medical College; Ophthalmic, Aural and Laryngeal Surgeon to St. Joseph's Hospital; Ophthalmic and Aural Surgeon to the City Hospital.

Tubercular Dacryoadenitis.

Stieren gives the history of a case of tubercular dacryoadenitis with a review of the literature of all past reported cases. (*Johns Hopkins Hospital Bulletin*, November, 1901.) The eye appears to enjoy greater freedom from tubercular invasion than any other part or organ of the body. In 1867 Virchow considered the conjunctiva immune to tuberculosis. In 1870 the first cases of tuberculous conjunctivitis were reported. This comparative immunity of the eye is due to the facts that (1) the eye is almost constantly at a lower temperature than that at which tubercle bacilli thrive; (2) is very often exposed to the direct sunlight; (3) is constantly bathed in and flushed by the tears; (4) and expulsion of the germs from the conjunctival sac is aided by the movements of the lids.

Of all the structures or adnexa of the eye the lachrymal gland enjoys the greatest freedom from disease. Tubercular disease of the lachrymal gland is one of the rarest of eye affections, twelve cases being on record. The author reports one additional case.

Rose, colored, aged 13, is the only surviving one of five children, the others having died in infancy. Parents living and healthy.

Present illness: About three months ago patient began to have a cough, more severe at night, yellow expectoration. Has been losing weight since that time, and has had night sweats. At the same time there was noticed an increasing fullness and prominence of the upper eyelids with purulent discharge from the eyes.

Examination showed enlarged glands of neck and chest with involvements of entire right chest in tubercular process. The upper lid of each eye presents a well-marked and pronounced swelling, with ptosis. Firm pressure reveals a tumor in each lid, hard, lobulated, rather firmly attached to its base and disappearing under the rim of the orbit. The lids evert with difficulty and present a palpebral conjunctiva, red, rough and thrown into folds, dotted with numerous yellow and

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yellowish grey nodules. These nodules are in many instances broken down in ulceration. The lower lids are free from these nodules and ulcers although the conjunctiva is inflamed and rough. The ocular conjunctiva, except for a few enlarged vessels, is normal. Six months later the lids presented a normal appearance, and it was only by careful palpation with tip of little finger under the orbit that a small hard tumor could be found. The conjunctiva was smooth and glistening and entirely free from nodules and ulcerations. The general health of the patient is immensely improved. She has gained eighteen pounds in weight and is free from night sweats.

The author draws the following conclusions from this case and the twelve other reported cases:

1. Tuberculosis of the lachrymal gland must be hematogenous.

2. The presence of tubercle bacilli in tubercular conjunctivitis or dacryoadenitis is not a *sine qua non* of the disease.

3. Tubercular conjunctivitis and dacryoadenitis may undergo a cure; surgical intervention is indicated only after proper therapeutic and hygienic measures fail.

Etiology of Acute Dacrycystitis.

Werneke (*Westnik Ophthalm.*) has examined histologically seventeen lachrymal sacs of patients suffering from trachoma, and found in the most all of them trachomatous changes in the mucous membrane. He therefore thinks that trachoma of the palpebral conjunctiva may readily pass onto the mucous membrane of the lachrymal sac.—*Annals of Ophth.*

Ciliary Neuralgia in Consequence of Malaria.

Ollowsky (*Westnik Ophthalm.*) has observed a ciliary neuralgia in his own case after an attack of malaria of four days duration. Different remedies had failed except a subcutaneous injection of quinin, which brought a perfect recovery.—*Annals of Ophth.*

Age is opportunity no less
Than youth itself, though in another dress,
And as evening twilight fades away
The sky is filled with stars invisible by day.—*Longfellow.*

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NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary; Laryngologist to Presbyterian Hospital.

The Epipharyngeal Tonsil.

N. H. Pierce (*Jour. A. M. A.*, vol. 38, no. 1) says:

1. The tissue composing adenoids has a wide distribution throughout the body.

2. The epipharyngeal tonsil is an organ normally present in all individuals.

3. The function of the epipharyngeal tonsil is at present unknown. Whether it is simply an evolutionary vestige or has to do with metabolic or other processes is equally uncertain.

4. Its wide distribution among the various members of the animal kingdom, its embryological connections, and identity with lymphoid structures elsewhere in the body, would suggest that the epipharyngeal tonsil *has* a function.

5. The histology and the experiments of Massini and Genta would tend to place it in the class of glands having an internal secretion.

6. The relation of tuberculosis, syphilis or scrofulosis to adenoids is not etiologic. Adenoids may be affected with tuberculosis, etc., but only as any other organ may be similarly affected.

Acute Infectious Submucous Laryngitis.

A. Onodi (*Arch. f. Laryngol. etc.*, vol. 12, 1901) considers that primary laryngeal erysipelas and phlegmon of the larynx are of common nature. Both are similar in their etiology, but the pathologic microbe can be not only the streptococcus pyogenes aureus, or, as Onodi has personally observed in several cases, also the diplostreptococcus lanceolatus of Frankel, and the staphylococcus pyogenes aureus. Onodi considers a clinical differentiation as of importance from a practical standpoint, and offers for this purpose the use of epithets which will characterize the manifestations and character of the entire clinical course. In those cases where the processes extend to the epiglottis and cause an edematous infiltration, and are accom-

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panied with high fever, the term erysipelatous should be applied. In those cases which exhibit slight fever, with plastic or purulent infiltration not only of the epiglottis but also of other portions of the larynx, the term phlegmonous is appropriate, and where the acute inflammation and infiltration is combined with superficial or deep tissue destruction, and gives off a disagreeable odor, the term necrotic is adapted.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Recovery after Hysterectomy.

L. Brown (*Am. Jour. Obs., etc.*, vol. 44, no. 288) says:

1. While the finished result of a supravaginal hysterectomy is most satisfactory, the operation is, however, marred by the possibility of a secondary infection, at times terminating fatally. When this infection does occur it can be reached only by some secondary operation.

2. The chance of this infection occurring is greatest when the subperitoneal space is drained through the canal of the cervical stump, or when the canal is left open. There is every reason to close the stump, as offering the best results.

3. Total abdominal hysterectomy, though not such a finished operation as the supravaginal, is, however, one in which there is less likelihood of any secondary complications, and, though objectionable on account of the suppurating cavity to be closed by contraction and granulation, yet offers to the patient a surer means of an uninterrupted recovery. This conclusion, while at variance with Olshausen's large collections of cases, in which he gives a 5.6 per cent. death rate for supravaginal and a 9.6 per cent. rate for fatal hysterectomies, is, however, the only one to be drawn from the collection of consecutive cases brought together here.

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Muscular Atony an Important Factor in Uterine Displacements.

H. C. Coe (*N. Y. Med. Jour.*, vol. 74, no. 19) says:

1. Muscular atony is an important factor in the causation of uterine displacements, either alone or associated with the usual factors, overweight of the uterus and weakening of its ligaments and the pelvic floor.

2. Mere restoration of the organ to its normal position with regard to the axes of the pelvis is not sufficient to cause permanent relief of symptoms, provided additional support is not afforded by firm pelvic and abdominal muscles.

3. The prognosis as to the cure of malpositions by operation is influenced by the general muscular tone of the individual.

4. Hence it should be the aim of the physician to endeavor to restore such a healthy condition of the muscles, either before or after operation, by appropriate treatment—baths, massage, electricity, gymnastic movements, out-of-door exercise, tonics, and such regulation of the patient's dress and mode of life, as seem best fitted to the individual case. In short, the work of the physician often begins where that of the surgeon ends, if the result is to be complete and permanent.

CLIMATOLOGY AND PHTHISIOLOGY.

UNDER CHARGE OF LLEWELLYN P. BARBOUR, M.D., BOULDER, COL.

Primary Intestinal Tuberculosis in Children; Its Frequency and the Evidence of Its Relation to Bovine Tuberculosis.

Bovaird (*Archives of Pediatrics*, December, 1901) presents a discussion of the evidence adduced to prove the transmission of tuberculosis from cattle to man. The percentage of tuberculous cattle found in various abbatoirs varies in different places from 12 to 18 per cent. under ordinary condition to as high as 30 per cent. in certain towns and even reaching 70 per cent. in some of the herds of London.

Ostertag contends that a more careful examination would greatly increase the percentage.

The possibility of transmission of tuberculosis by the meat of tuberculous animals may be excluded except in those rare instances in which tuberculous nodules are found in the

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muscles. And the milk is really dangerous only from those cows that have tuberculous udders. These two statements may be considered well established, although several investigators have recently reported tuberculous milk from cattle whose udders were apparently free from disease. Bovaird's conclusions are that (1) milk is virulent only when the udder is the seat of tuberculous lesions; that (2) virulent milk is dangerous only when taken in considerable quantities; that (3) practically danger from ingestion of raw milk exists only for those who use it as their sole or principal diet, that is to say, young children and certain invalids, and to avoid all danger it is sufficient to bring the milk to a boil before it is consumed.

The direct evidence available in literature to prove that tuberculous milk has produced tuberculosis in children is surprisingly scant. The author finds only 22 cases reported during the past fifteen years. In each of these cases one could scarcely doubt that milk was the cause of infection, as each patient was shown to have ingested quantities of tuberculous milk.

Accepting every case of primary intestinal tuberculosis in children as due to the ingestion of tuberculous milk, we find again that evidence is scant.

In New York city and environs out of 369 cases of tuberculosis in children only 5 are reported as of intestinal origin —one per cent. About 4 per cent. of such cases are reported by German observers, while English authorities give 18 per cent. After a review of a considerable amount of literature the author concludes:

1. That English reports alone show any considerable number of cases of primary intestinal tuberculosis.

2. That primary intestinal tuberculosis is a very rare affection in or about New York, about one per cent. of cases of tuberculosis having such an origin.

3. That the evidence connecting tuberculosis among children with the consumption of milk of tuberculous cattle is very scant.

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A PUBLIC HEALTH SERVICE.

ON December 19, 1901, there was read before the Senate of the United States a bill, called the Perkins Bill, which has for its object the establishment of a National Health Service, this service being created from the now already well organized and highly efficient Marine Hospital Service.

For some time the Marine Hospital Service has been drifting toward this very end, for its services as a sanitary organization have for a number of years been of much more importance to the country at large than have its duties in caring for the physical welfare of sick and disabled sailors. Indeed the latter is a very flimsy foundation upon which to base the structure of the organization of such an efficient body of medical men as are comprised in this service, and it is but natural that their skill and talents should be turned to a better general advantage than at present applied.

Ever since the agitation for the establishment of a public health service was commenced, we have been firm and pronounced advocates of placing this work in the hands of the Marine Hospital Service. Here is a corps of physicians already highly trained and of known efficiency in sanitary work, and furthermore they have always been enabled to secure Federal coöperation in the promotion of any sanitary measures that were called for in an emergency that threatened the country's welfare.

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Certainly there appears to be nothing better offering in the way of a public health service, or that would prove of anything like the efficiency of the Marine Hospital Service in this capacity. Other propositions that have been advanced for the creation of such a service all promise to partake too much of politics, and would present the problem of developing from a raw and untrained nucleus a sanitary force which in the end would, perhaps, have nothing like the system of the Marine Hospital Service, and would, no doubt, lack the very excellent equipment which this service has been so many years in acquiring. We are heartily in favor of the Perkins Bill.

EDITOR'S NOTES.

Dr. William Britt Burns, of Memphis, has been appointed division surgeon of the Frisco System, with headquarters at Memphis.

Dr. W. S. A. Castles, formerely of Oakland, Tennessee, has moved to Memphis and engaged in practice in this city. His office is located at 280 Second St.

The Memphis Medical Society has entered upon the new year with increasing interest in its meetings and a much larger attendance. A program committee will have in charge the arranging of the programs for the year, and a "smoker" for the members is to be provided at an early date.

The splendid new building of the Memphis Hospital Medical College is rapidly approaching completion. This building will be one of the best appointed medical college buildings in the country, and with the excellent faculty possessed by the college, and its exceptionally good clinical facilities, the school will be without a superior for teaching medicine in all its branches in the South.

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SOCIETY PROCEEDINGS.

MEMPHIS MEDICAL SOCIETY.

Stated meeting, Tuesday evening, January 7th, 1902.

Present, Drs. A. Moore, Barton, Ellett, E. Williams, Buford, W. B. Sanford, Kennedy Jones, Braun, Morrow, Rudisill, Wadlington, Reilly, Burns, Venn, Winston, Michie, Taylor, Kane, Turner, H. B. Sanford, Thomas, DeLoach, Anderson, Webb. Visitors, Dr. Bell, of City Hospital, Dr. Woods, of Batesville, Miss., Mr. Charles M. Bryan, Mr. C. B. Bryan and Dr. Frank Graham.

An able address on *Medical Jurisprudence* was delivered by Mr. Charles M. Bryan. (The MONTHLY hopes to be able to present this address in full to its readers at a later date).

Dr. B. F. Turner discussed in an extemporary manner *The Disorders of the Brain and Cranial Nerves Secondary to Inflammatory Lesions.*

After considerable discussion of the question of having an annual banquet for the society this year, on motion of Dr. J. H. Venn it was decided that this feature be carried out. A committee to arrange for the banquet, consisting of Drs. Ellett, Reilly and Turner, was appointed by the president. The president also announced the following committees to serve during the ensuing year:

Credentials—Dr. J. L. Andrews, Chairman; Dr. E. A. Neely, Dr. G. S. McReynolds.

Censors—Dr. J. L. Minor, Chairman; Dr. B. F. Turner, Dr. Edwin Williams.

Publication—Dr. J. L. Barton, Chairman; Dr. Richmond McKinney.

Program—Dr. E. C. Ellett, Chairman; Dr. William Krauss, Dr. W. B. Burns.

Stated meeting, Tuesday evening, January 21st, 1902.

The president, Dr. Alfred Moore, in chair.

Present were Drs. Alfred Moore, Barton, Ellett, McCown, Black, Morrow, Rice, Andrews, Heber Jones, Krauss, W. B. Sanford, H. B. Sanford, Raymond, McReynolds, Braun, Edwin Williams, Henning, Webb, Michie, Buford, Kane, Stanley, Burns, Reilly, Jelks, Anderson. Visitors, Drs. Castles, Van Meter, Bell and Petty.

Dr. Ellett presented an interesting case of *Parinaud's conjunctivitis.*

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Dr. McReynolds in discussing this case, said that he had seen but a few of these cases, and they were mistaken for trachoma.

Dr. William Krauss read a paper on *The Bacteriology of Typhoid Fever.* (This paper will be published in the March issue of the MONTHLY).

Dr. Reilly, opening discussion, stated that he would forego the customary compliments to the essayist, since Dr. Krauss had never disappointed the Society by giving it any other than a most finished paper. He believed that the essayist had purposely touched only lightly on the subject of diagnosis of typhoid fever by the pure culture method, in order to evoke some discussion on this part of his subject.

From investigations already made we might feel encouraged in believing that this method of diagnosing typhoid fever would eventually become the commonest laboratory method. Cases have been reported from time to time in which typhoid bacilli have been cultivated from the blood during the course of typhoid fever. Within the last two years it has been shown by the use of delicate methods that the bacilli occur in the blood of the majority of typhoid fever patients:

Castellani, first series, twelve cases, 0 positive, 0 per cent.

Castellani, second series, fourteen cases, 12 positive, 87 per cent.

Auerbach and Unger, ten cases, seven positive, 70 per cent.

Schottmüller, fifty cases, forty positive, 80 per cent.

Cole, fifteen cases, eleven positive, 73 per cent.

Hewlitt, (N. Y. Hospital) twenty-four cases, twenty positive, 83 per cent.

In the cases at the New York Hospital, out of the first 16 cases the bacillus was found in 15, showing that the percentage was not raised by the selection of cases. The method employed was to take from the vein at the elbow about 5 cc. of blood, and this was diluted with 3 flasks of sterile bouillon. If a growth of motile bacilli appeared, they were identified by their behavior toward a given serum, a well-marked Widal reaction after ten minutes in a dilution of one to ten being considered as sufficient to establish a diagnosis. When the bacilli in the original flasks of bouillon grew with rapidity and were sufficiently motile, a positive result could be obtained in thirty hours. If a transfer or planting were necessary, the identification of the bacilli was often delayed for from three to five days. These delays constitute the most serious objection to the use of blood cultures for early diagnosis, and indeed often rendered its use most disappointing. Two fac-

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tors are important in the above method—the use of large quantities of blood and the dilution of this blood in sufficient bouillon so that its bacteriological properties will not prevent the growth of organisms. Castellani lays special stress on this second factor, and attributes his success in his second series of cases to the large amount of diluent used. He also mentions four cases in which the typhoid bacillus was found at a time when the Widal reaction was negative. Auerbach and Unger report one such case. Cole obtained the bacillus in six cases before securing a positive Widal reaction with a dilution of 1-50. In three of the New York Hospital cases the blood contained the typhoid bacilli before the serum, diluted one to ten, showed the Widal reaction. The New York Hospital series showed that the cultures taken early in the disease were more apt to be positive than those taken later in the disease. The earliest positive results in the course of the original fever were obtained on the fourth or fifth day of the disease, as far as they were able to obtain the exact onset of the disease. Of those cases in which cultures were made during a relapse, all showed the typhoid bacilli. In these cases the onset of the relapse could be accurately determined, and the positive result obtained in them on the third, fourth or fifth days. Previous cultures in each case had been negative, so that a fresh blood injection had probably occurred at these early dates in the relapse. From only two of the cases of the last series were cultures positive after the fourteenth day of the disease, and in none was a positive result obtained after a previously negative culture, except when there was a relapse. Typhoid bacilli have been obtained from patients at the beginning of the fourth week of the fever in one instance by Cole, and once by Auerbach and Unger. There were no such findings in the New York Hospital series.

The number of bacilli present in the circulating blood apparently does not depend upon the degree of intoxication present, for in one of the most serious cases reported in the last series, cultures were not made until the sixteenth day, when the result was negative; also on the twentieth, with the same result, while they were found in an intercurrent relapse at its onset, when the temperature was about 102°F. In another severe case of the same series, they were found on the eighth and thirteenth days, and results were negative on the nineteenth and twenty-third days.

It is to be hoped that the pure culture method of diagnosis will be brought to the same state of accuracy that the Widal method has, for by it we can determine in the first week of a

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fever whether we have typhoid fever to deal with or not. The objection to the Widal method is that it is of clinical value only in doubtful cases. In the majority of cases the clinical signs are well pronounced before we get reaction. It is then only confirmatory.

Dr. Rice said that he had seen a death in St. Joseph's Hospital from perforation of the bowel on the second day of admittance, but thought that perhaps the patient had been suffering for a longer time with an ambulatory type of typhoid fever.

Dr. Henning said that after listening to Drs. Krauss and Reilly, he regretted that he is not a bacteriologist, but has more faith in clinical diagnosis than in bacteriology. He did not believe that all cases of continued fever are typhoid, and thinks that we have no antiseptic that will abort typhoid fever.

Dr. Buford said that Widal's reaction was found in many diseases other than typhoid.

Dr. Heber Jones said that true typhoid fever is a rare disease in Memphis. He does not believe in Osler's quinin diagnosis, and has more confidence in a Southern physician's diagnosis of Southern fevers than in the diagnoses of Northern men, who had no clinical experience with the fevers of the South. He said that he would hold to Widal's test until something more satisfactory was offered, his chief objection to the Widal reaction being that it is too slow. A satisfactory clinical diagnosis can be made in the same time.

Dr. W. B. Sanford asked Dr. Jones what he called this unknown fever, and what treatment he used.

Dr. Jones said that at present he thought best to call them malarial, and to treat them symptomatically.

Dr. Jelks reported a case of typhoid fever in which he made a diagnosis on the fifth day, which was verified by Widal's reaction, and in two days was apparently convalescent. Then in three days there was a relapse, and the fever was reduced with guiaicol, and in a few days the patient was again apparently convalescent, and had another relapse on the 25th day with typical rash and hemorrhage. In this case there was no reaction with Widal's test after the fifth day.

Dr. Meyer thought Widal's reaction of special value in making a diagnosis of typhoid in a negro, for the eruption could never be seen in the negro. In his service at the City Hospital he had seen twelve cases of typhoid in the negro. The Widal reaction was present in all of these cases from the fifth to the twelfth day.

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Dr. Stanley said that he had no faith in Widal's reaction and in bacteriology in the diagnosis of these fevers.

Dr. Krauss, in closing, said that in many cases Widal's reaction would appear late in the disease. He thought Widal's reaction better than blood culture. Blood culture would be better if made on the fourth or fifth day, but there are many objections to blood culture. Widal's reaction is correct in 97 per cent., and blood culture in 87 per cent. He did not believe in guessing when you have a test which is accurate. A cure will be obtained in malarial fever when the spore parasite is in the blood. When sporulation is not active there is a post malarial malaise, and quinin will do no good.

Dr. Rice read a paper on *The Preparation of the Patient for Surgical Operation, with a Consideration of Anesthesia and Shock.* (This paper will be published in the March issue of MONTHLY).

Dr. W. B. Sanford, opening the discussion, said that before operating upon a patient we have two features to deal with—first, moral; second, physical. The moral is overlooked by many operators, and it is very essential for securing a successful operation, to first obtain the confidence of the patient. He believed as much in internal as in external preparation of the patient. If the blood, excretions and secretions are in a normal condition, we would never have shock.

Dr. McCown complimented the essayist for his excellent paper. Cases for surgical operation should be divided into two classes—acute and chronic. In the first class, in many cases the necessity for quick action outweighs the necessity for preparation of the patient, but in chronic cases preparation of the patient, both external and internal, should be carried out in detail. When a doctor gives an anesthetic, he should consider all patients bad patients to take an anesthetic, and this would make him more cautions. There is a larger percentage of patients infected in hospital cases than in patients treated in private homes in surgical cases. He thought ether the safest anesthetic for inexperienced men.

Dr. Ellett emphasized the necessity of making a careful examination of the patient for some acute disease before giving a general anesthetic. He related a case upon which he was going to operate, and a moment before starting to give an anesthetic it was discovered that the patient had diphtheria.

Dr. Alfred Moore said that the bladder should always be emptied, and that the anesthetic should never be given in the operating room. The operator could not be too careful in choosing clean and reliable assistants.

Dr. Rice, in closing, said that he did not believe that as

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many cases were infected from hospitals as from the operator. He reported a case where a patient was operated upon for a small ovarian cyst in which ether was used, and the patient died from the effect of the anesthetic. Necropsy could show no other cause for death.

Under the order of business, Drs. J. F. Graham and E. C. Blackburn were elected to membership.

BOOK REVIEWS.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes on the year's progress in Medicine and Surgery. Issued monthly, under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. Volume 1, General Medicine, Edited by Frank Billings, M.S., M.D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago, with the Collaboration of S. C. Stanton, M.D. Price, $1.50. October, 1901. Chicago: The Year Book Publishers, 40 Dearborn Street.

The Year Book Publishers have undertaken to publish a practical medicine series of year books, which will comprise ten volumes and be issued monthly. It is the purpose of this series to cover in a concise yet sufficiently full manner the entire year's progress in medicine and surgery.

Volume one of this series, which considers general medicine, is edited by Dr. Frank Billings, with the collaboration of Dr. S. C. Stanton. The work is well arranged and seems to fully cover its field. The merits of *The Year Book on the Diseases of the Nose, Throat and Ear*, as published by these publishers, would go to indicate that they will achieve considerable success with the present venture.

A MANUAL OF PERSONAL HYGIENE. Edited by Walter Pyle, A.M., M.D., Philadelphia. Illustrated. Price, $1.50 net. Saunders & Co., Philadelphia and London. 1901.

In this splendid work the editor who has written on the subject "Hygiene of the Eye," has been assisted by the following contributors: "Hygiene of the Digestive Apparatus," Charles G. Stockton, M.D.; "The Skin and its Appendages," George Howard Fox, M.D.; "The Vocal and Respiratory Apparatus," E. Fletcher Ingalls, M.D.: "The Ear," B. Alexander Randall, M.D.; "Physical Exercise," G. N. Stewart, M.D., and "The Brain and Nervous System," J. W. Courtney, M.D. To present this subject in a manner which shall appeal to the educated layman without pandering to popular prejudice or fads, is by no means an easy matter. To offer neither too much nor too little and to make all clear and distinct involves careful discrimination. To say that all of the contributors have attained this is the truth.

In Dr. Stockton's section, the mechanism of digestion and absorption is ably described. There is a description of the teeth, with directions for the preservation of them, and the deformities of the jaws. There are also some valuable things said upon the diet. Dr. G. H. Fox, in dealing with the skin, extols the cold bath as a stimulant and tonic. He discusses the relation of the clothing to the skin and the deformities resulting from improper shoes. The care of the hair

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and scalp is extensively described, and the massage of the scalp and shampooing are strongly advocated. There is a discussion of the relation of eye-strain, and directions on the proper wearing of glasses.

J. W. Courtney, in discussing the hygiene of the nervous system, naturally begins with the influence of hereditary and educational environment. There are excellent chapters on worry, overwork, neurasthenia, alcohol, rest and exercise. This article is one of the strongest in the book.

Dr. Stewart closes the work with a short chapter on the physiology of the muscular movement. This includes exercise and muscular training.

On the whole the work is an excellent contribution to hygiene, and it is all the more valuable from the fact that there is no attempt made in its pages to make every man his own physician.

HAYDEN ON VENEREAL DISEASES. A Pocket Text-book of Venereal Diseases. For Students and Practitioners. By James R. Hayden, M.D., Chief of Clinic and Instructor in Venereal and Genito-Urinary Diseases in the College of Physicians and Surgeons, New York, etc. New (3d) Edition, thoroughly revised. In one handsome 12mo. volume of 304 pages with 66 engravings. Cloth, $1.75 net. Flexible leather, $2.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

It speaks well for the popularity of this little work that it has promptly come to its third edition. This opportunity has been utilized to revise it thoroughly.

New sections on vegetations and herpes progenitalis have been added, and also a number of new illustrations. The book furnishes in clear and compact form a practical working knowledge of gonorrhea, stricture, chancroid and syphilis, together with their complications and sequelæ. It will be found very convenient and handy for students, but will also serve as a reliable guide for the practitioner in the management of this class of cases.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By the late Emily M. A. Stoney, Superintendent of Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. 190 pages. Philadelphia and London: W. B. Saunders & Co. Price, $1.25 net. Illustrated. 1901.

This is an admirable little book for the purpose for which it was written.

The first sixty pages are devoted to a general statement of a history of bacteriology, bacteria as the cause of disease; the theory of antitoxins, antiseptics and disinfectants and deodorants.

Then follows the practical portion of the work, which deals with such topics as the care of the operating room, the methods of sterilization, and the care of instruments.

There is a special chapter on gynecological examinations and operations, and there is an excellent one on operations in private practice. The directions regarding anesthesia are excellent, and nothing is to be desired in the description of surgical dressings. The preparation of the patient is carefully given.

The work closes with a brief description of the signs of death and method of preparing for autopsies.

For a work that deals with such a mass of detail, it is exceedingly practical. In this, we judge, its greatest value will be found, not only to nurses, but for all who read its well-written pages. Every nurse will be a better nurse for the reading of this book of Miss Stoney's.

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THE MEDICAL NEWS POCKET FORMULARY, NEW (4TH) EDITION. Containing 1700 prescriptions representing the latest and most approved methods of administering remedial agents. By E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. New (4th) edition, carefully revised to date of issue. In one wallet-shaped volume, strongly bound in leather, with pocket and pencil. Price, $1.50 net. Lea Brothers & Co., Philadelphia and New York, 1902.

The demand for a work of this kind is often exigent with the practitioner, for while he may know just what he desires to use in the treatment of a given case, the proper combinations of remedial agents may momentarily escape him. It is a book that will never prove a superfluous addition to the physician's equipment for successful practice, and indeed, may be the means of relieving him of an embarrassing situation at a most opportune moment.

In this new fourth edition of the *Formulary* are incorporated those newer remedies which have successfully stood the test of practical experience, and many newly originated formulæ have been added.

PROGRESSIVE MEDICINE, VOL. IV, 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 400 pages, 13 illustrations. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., Philadelphia and New York.

Progressive Medicine in now one of the best known of the works devoted to the exposition of progress that is being made in medicine and surgery, and its readers number a large proportion of the progressive physicians of America.

The contents of this volume are of a varied and practical character, and appeal to all classes of medical men. One of the most interesting sections is that on Hygiene, by Dr. Baker, which is rendered more so by recent developments in the great question of tuberculosis. This system is not a mere compilation of literature, but presents a series of critical reviews and original papers by masters of the subjects of which they treat.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA.

Variola, Vaccination, Varicella, Cholera, Erysipelas, Whooping Cough. Hay Fever.

VARIOLA (including Vaccination), by Dr. H. Immermann, of Basle. VARICELLA, by Dr. Th. von Jürgensen, of Tübingen. CHOLERA ASIATICA and CHOLERA NOSTRAS, by Dr. C. Liebermeister, of Tübingen. ERYSIPELAS and ERYSIPELOID. By Dr. H. Lenhartz, of Hamburg. WHOOPING COUGH and HAY FEVER, by Dr. G. Sticker, of Giessen. Edited, with additions, by Sir J. W. Moore, B.A., M.D., F.R.C.P.I., Professor of the Practice of Medicine, Royal College of Surgeons, Ireland. Handsome octavo volume of 682 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $5.00 net; Half Morocco, $6.00 net.

To those physicians who have had an opportunity to see the first volume of this monumental work, it will not seem extravagant for us to state that this will undoubtedly prove one of the most valuable acquisitions that recent years have seen added to medical literature.

This new volume comes at a time when it will, on account of some of its articles, receive even wider attention than ordinarily, for it contains a most timely article on variola, including vaccination and variolation, which was prepared by Dr. Immermann, who is well known for his various contributions to this subject. Other articles contained in this volume are not less interesting and valuable, and the practitioner cannot but be pleased with the manner in which the subjects have been handled.

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ORIGINAL ARTICLES.

EXTRA-GENITAL CHANCRES, WITH ILLUSTRATIONS AND REPORT OF CASES.*

BY M. GOLTMAN, C.M., M.D.
MEMPHIS.

BECOMING impressed with the number of extra-genital syphilitic chancres that I have seen in the past six years, I have concluded that a consideration of the etiologic factors concerned in their production might prove advantageous.

Firstly. Advantageous to us as medical men, from the strictly scientific or etiologic standpoint; and

Secondly. Advantageous to the public at large, from the hygienic standpoint.

In studying this particular part of the subject of syphilis, one cannot fail but to be almost startled by the many avenues of possible infection, almost anything being capable of carrying and transmitting the disease. That we do not all become infected depends upon three facts and one factor.

1. The fact that all normal individuals resist disease to a greater or less extent, syphilis not excepted.
2. The fact that many of us have more or less inherited immunity.
3. The fact of virus attenuation.
4. The factor—bull-headed luck.

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 20, 1901

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Bearing upon the question of immunity, an eminent syphilographer says very tersely, "We are fast becoming a nation of syphilitics." He might have said we are fast becoming a world of syphilitics, and still be correct.

Being concerned with syphilis insontium or innocent syphilis, it might here be well to state that Fournier showed that 25 per cent. of female syphilitics in his private practice acquired the disease innocently. Fordyce and others in this country claim even a larger percentage.

Realizing the importance of the subject from the figures just quoted, to say nothing of my own experience, which is more than confirmatory, this communication is the result.

All chancres are strictly speaking accidental, but we prefer to elevate the extra-genital induration, innocently acquired, to this distinction. The accidental chancre occurs then in from 2 to 5 per cent. of all syphilitics according to geographical location. In America it occurs in about 2 per cent. of all cases. In certain sections of Europe where the habit of promiscuous kissing is common, it occurs oftener. According to statistics collected from different authors by Julien, out of 1977 syphilitic chancres 126 were extra-genital, or over 6 per cent. Of this tabulation 22 per cent. were in women.

One-half of all syphilitic chancres are cephalic, and of all cephalic chancres three-fourths are of the mouth. The female nipple is the next commonest site of infection.

Morrow, vol. 2, page 69, totals 9058 extra-genital chancres. Of these 1810 were of the lips, and 1148 were of the nipples and breast. Most of these, particularly those of the nipples and breasts, were no doubt innocently acquired. 372 were of the eyelids and conjunctiva, 146 of the chin, 145 of the cheek, 100 of the nose, 37 of the forehead and temple, and 27 of the ears. Tonsorial infection may in a great measure be held accountable for these last two items. 745 were acquired by cupping and phlebotomy, 179 by circumcision, and 82 by tattooing. These figures certainly show how common is syphilis insontium, without going into its truest type—hereditary syphilis.

As already stated, the avenues of infection are many and various. The secretion of the primary sore, so called, or of

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the tissue detritus of the secondary lesions, or of active hereditary syphilis lodging upon the hands, linens, wearing apparel, cooking utensils, instruments and implements, and coming in contact with an abraded surface, can produce a chancre in one not immune.

The mucous patch or, properly tubercle, is said to be the most prolific disseminator of the disease. This is certainly my experience. The blood in early and active syphilis can likewise do so. This power lessens, however, in the later stages of the disease, and particularly so in those having undergone thorough treatment. Some authorities even state that the virus, if left in contact with the unbroken, thin, soft and moist epithelium of mucous membranes, will penetrate into the orifices of the mucous and sebaceous follicles and there take root. There must be some truth in this, for circumcision certainly protects the Jew to a great extent.

It is claimed by many authorities that the tertiary lesions are not endowed with virulent power. This may be true, but it is nevertheless a dangerous teaching in the present state of our knowledge, since active secondary lesions may be combined with the tertiary lesions, or so closely simulate them as to make positive differentiation impossible. The normal or physiological secretions of syphilitics do not of themselves contain the syphilitic virus; it is only by admixture with chancrous secretion, secretion of secondaries or with syphilitic blood that they beget the power to transmit the disease.

Extra-genital infection may take place by direct contact, which may be buccal, manual or corporeal, or by mediate infection. Kissing is probably the most prolific source of extra-genital infection, and women are oftenest afflicted.

Hereditary syphilitic children frequently infect their nurses' nipples, and per contra, healthy children are just as frequently infected through syphilitic nurses. Among the lower classes midwives frequently draw out retracted nipples by suction. It is needless to discuss the effect of mucous patches in the mouth in such instances.

In Roumania it is the custom to attribute all eye diseases to foreign bodies, for the relief of which there is a class of women known as "leeching oculists" who cleanse the eyelids

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with their tongues. Many persons have been infected in this way.

Extra-genital chancres are sometimes produced through the communion cup, through brawls and fights, through bites and exuberant embraces, when children are frequent victims.

Surgeons, physicians, accoucheurs, nurses and midwives are frequent victims, who may in turn communicate the disease far and wide.

Infection through mediate contact may take place in social, professional and industrial life. In social and domestic life, through eating and drinking, family intercourse, household effects and the care of children. In industrial life, through glass blowing, assaying, blowing of wind instruments, from whistles and speaking tubes, and through cooks, upholsterers, shoemakers, clerks, laundresses and secondhand dealers. In professional life, through vaccination, which is now rare indeed, through tattooing, phlebotomy, circumcision and other minor operations, through skin grafting, cupping, eustachian catheterization, the passage of sounds and specula, the filling, filing and drawing of teeth, but most frequently in the barber shops through contaminated razor wounds or wounds dressed with court plaster moistened with contaminated saliva.

The subject of one of these photographs, which I hand around (see Fig. 1), was infected in a barber shop through a syphilitic barber who also infected several others. The chancre shows very plainly on the cheek, likewise the buboes, which were submaxillary. The secondary manifestations were exceptionally severe in this case. The subject of the other photo which I hand around (see Fig. 2), was infected through kissing. The chancre is plain on the upper lip, the buboes were quite palpable beneath the angle of the jaw and side of the neck. The secondary manifestations were mild but unmistakable. Treatment in this case was reserved until secondaries appeared.

In all I have treated five cases of syphilis insontium—three males and two females. One of the latter was a married woman who became infected on the lip by a lover; the other was infected on the lip by her fiancé during courtship.

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Fig. 1.

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Fig. 2

Besides these cases of my own, I know of a number of others in the practice of other physicians in this city, all of which but emphasize the necessity for the institution of some tangible prophylactic measures. To look for the total eradication of syphilis would be little less than utopian, but that syphilis insontium can be markedly diminished, if not totally eradicated, there is no doubt. I would suggest as follows:

1. Physicians should give their syphilitic patients explicit hygienic instructions, which would be better printed in booklet form. In my opinion a physician neglects a positive moral obligation if he fails in this. This, in my judgment, is the keynote of all prophylaxis, since all cases come under the physician's care sooner or later.

2. The habit of promiscuous kissing should be inveighed against—four of my five cases having been infected in this way—and much care should be exercised in the selection of servants, particularly nurses.

3. Barber shops should be governed by proper legislation embracing a knowledge of the rudiments of the science of contagion, asepsis and antisepsis.

4. Physicians and dentists would do well to make examinations with more care, and to perform minor and other operations with more deliberation.

5. The hygiene of industrial life should also be regulated. This would have a tendency to lessen other diseases besides syphilis, and could readily be done by disseminating the proper literature.

502–504 Randolph Building.

THE KIDNEY AS A PATHOLOGIC FACTOR.*

BY G. W. PENN, M.D.

HUMBOLDT, TENN.

It is apparent to every observant clinician that that important organ, now no longer regarded as simply excretory, the kidney, exerts a far greater influence on the health of man, especially beyond forty years of age, and is responsible for more deaths, directly and indirectly, than a perusal of most

* Read before the Humboldt Medical Society, Jan. 7, 1902.

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mortality tables would indicate. It is for the purpose of calling attention to some of the many pathogenic phases presented by the kidney that I offer this paper.

We are all familiar with the classic picture of chronic nephritis in one of its more pronounced forms, the large white kidney, so called, of parenchymatous nephiritis, and the sclerotic kidney of the interstitial, which is, of course, by far the more important of the two. I believe the latter form is much more common than is ordinarily supposed. It is not necessary that albumin appear constantly in the urine in these cases, at least in quantities sufficient to be detected by the cruder tests.

The concomitant, or in many cases, causative degenerative changes of a sclerotic nature in the circulatory organs are so closely blended with renal pathology, that even a cursory discussion of one is impossible without reference to the other. It is a true saying that these degenerative changes are but the premature, more acute conditions, that are met with naturally in the aged. And they are doubtless due to the same causes, acting in a much more rapid manner. For instance, in one with healthy digestive, secretory and excretory organs, the waste products of metabolism are never retained in the blood in sufficient quantities, or long enough at a time to cause the interesting histo-pathologic changes to which are due the symptom complex, called in one instance reno-vascular sclerosis, in the other old age, until in the latter case, the natural time limit controlled by as yet unknown laws of immunity and regeneration shall have been attained, when the whole organism by these slow processes of cell degeneration ceases to exhibit those chemo-physical reactions to environment, which, though still hidden from the beaker glass and microscope, are meaninglessly called "vital phenomena," and somatic euthanasia kindly drops the curtain on the octogenarian's mundane stage. On the other hand, given a case of one who has lived "not wisely but too well," with an alcoholic or syphilitic history, with a gouty or obese tendency, or with polymorphous hereditary influences predisposing directly to some of these allied conditions, and indirectly to a strenuous nervo-vital temperament that seems a favorite one for their development, and finally, a faulty chylopoietic system causing the retention of certain

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noxious end products of digestion, especially of proteids, as urea, uric acid, and the alloxin or xanthin bases, and we have a clinical picture that could with no stretch of the pathologist's imagination be called *acute* senility, if you will allow the paradox.

It is not alone to these primary changes in the vessels and kidneys that I wish to call attention, but to the renal complications of acute diseases. There is a pretensile stage in every case of sclerotic nephritis or cardio-vascular disease, during which the most expert can scarcely say that the disease exists. Not only is it most desirable to recognize such a condition for the purpose of checking if possible its tendency toward final disastrous results, but also because it is in just these cases, that, being attacked by some intercurrent illness, they are less able to resist invasion of these impaired vital structures and hence a greatly increased liability to renal complication. The acute infections act in these cases as much as alcohol and syphilis, and too, when the resistance is lowered by the toxemia attending them. Doubtless degrees of difference in resistance to the same diseases in people seeming to be of equal strength are often due to the presence of an unsuspected incipient nephritis, and not in every instance to a larger dose of the specific toxin.

As indicated above, the manifestations attending early arterial sclerosis, before the tensile stage, are so vague that it is only by the closest attention to details that morbidity is detected; slight attacks of otherwise unaccountable vertigo, irregular heart action, attended possibly with slight anginal or syncopal symptoms, subjective throbbings, with no demonstrable organic lesion in evidence, are often ominous precursors of impending degeneration, and possibly are actually due to the existence of ultra-microscopic changes that future lenses will see. These statements apply in many respects to the sclerotic kidney, for sooner or later either condition is almost sure to produce the other, since they are reciprocal etiologically.

I recall an interesting case in which the patient at periods of ten and one years before death, was attacked suddenly by an anomalous form of amnesic apraxia, during which he was conscious and also conscious of his condition, but could neither remember things transpiring only a few moments before, nor

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comprehend his present intention. These attacks were preceded by flushed face, and ended after free saline purgation, in twelve to twenty-four hours. A year after the last attack described, he contracted influenza, and developed after two weeks, certain nervous symptoms, which, remembering the former peculiar attacks, I was fearful were the result of some grave disease of the nervous system. Dr. B. F. Turner, of Memphis, saw the case with me and attributed the nervous symptoms to intestinal intoxication, but on examination of the patient's urine, albumin and tube casts were found, enabling us to diagnose nephritis, very probably due to Pfeiffer's bacillus, although these microörganisms were not found in the urine.

It is of course evident that a general arterio-sclerosis which was pronounced during the last illness of this patient, was the cause of the peculiar antecedent apraxic phenomena, as well as an insidious nephritis, which made the kidney in this case the *locus minoris resistentiæ*, and was hence the more readily kindled into an active inflammation by the influenza.

Another interesting case was that of a man fifty years old, never sick before, developing an acute fever, in which the diagnosis at first seemed to be between typhoid and malarial fever. An examination of the urine showed albumin in abundance.

It is true this case may have been what the French call "nephro-typhoid," but since about 33⅓ per cent. of these cases die, it is of prognostic importance to recognize it.

Regarding the management of these cases, of first importance is careful attention to the digestive system. Medicine is obviously of little avail. The correction of pernicious personal habits is of course necessary; the emunctories should be kept active, and a scant, easily assimilable diet with a minimum of proteids should be insisted upon. These persons should be told to drink copiously of water, sleep long, avoid worry, excesses of all kinds, and too much mental effort.

In cases presenting more decided symptoms, such as scant urination, shortness of breath or slight anginal attacks, interrupted courses of nitroglycerin have proven of decided benefit. Digitalis and iron are contraindicated in these cases, as in all other vaso-constrictors.

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Cases coming up during acute diseases will be treated of course according to the then existing conditions, but in finding starved fever cases whose glandular structures are already loaded with the dissociation proteid products of their own bodies, obtained not only from the muscles, but much more abundantly from the cytoplasm furnished by the excessive leukocytosis so common in most febrile conditions except typhoid fever, too much beef or other animal food should not be used. I have seen albumin appear and disappear in the urine as certain prepared animal foods were given or withheld. Fruit syrups and the carbohydrate cereals cooked two hours and kept sufficiently thin by the addition of water, make a better diet for the sick than the extract of lean flesh, and furnish sufficient proteid for the repair of tissue waste, at least during the febrile and defervescent stages, which of course are the periods of greatest danger.

I feel sure we would err on the safe side if we made urinary examination almost a routine procedure, especially in cases presenting unusual features, in protracted or continued cases, and *always* in those tending toward chronicity or subchronicity, should such analysis be made.

THE BACTERIOLOGY OF TYPHOID FEVER.*

BY WILLIAM KRAUSS, M.D.

MEMPHIS.

THE program committee could hardly have found a subject in medicine that presented less mooted points and a more voluminous literature than this; or one to which the writer could have added as little from his own experience.

Historical. The organism which is the accepted cause of typhoid fever was discovered by Eberth in 1880, and at the same time independently by Koch in the internal organs of typhoid cadavers. Four years later it was isolated by Gaffky from typhoid stools.

Morphology. In tissues it is usually found in short, rounded rods, 1 to 3.2 micromillimeters in length and 0.6 to 0.8 in

* Read before Memphis Medical Society, January 21, 1902.

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breadth; it is rarely found in chains. Upon culture media, however, it presents the greatest variety of shapes and modes of arrangement; in bouillon cultures it is a very slender bacillus; in milk it grows very large; upon agar and potato it appears in very thick and short rods; in old gelatin cultures it forms very long filaments; threads are especially well formed upon very acid potato.

Spore formation. This is now known not to exist; the shining polar bodies or "Gaffky spores" are vacuoles, and the bacilli containing them are less resistant than those without them. This discovery, accredited to Buchner, is claimed by Sternberg. According to Leo Mueller, the regularity and abundance of these spore-like vacuoles when grown upon feebly acid media differentiates them from the colon bacillus.

Motility. The short forms execute active, vibratory movements; the threads move forward in a wavy, snake-like motion. These movements are produced by the cilia-like wavings of thread-like projections upon the sides and at the poles and which are called flagella; these are from 6 to 14 in number.

Tingibility. The typhoid germ does not stain quite as easily as do most organisms, and gives up the color rather more readily. For this reason it is demonstrated in tissues with great difficulty, being more readily decolorized by Gram's method than are most of the bacteria of this class. McFarland recommends staining tissues with Loeffler's alkalin methylen blue for twenty-four hours or less and rapidly decolorizing with alcohol, clearing with xylol and mounting in Canada balsam. Or, they may be stained by Ziehl's carbolized fuchsin and decolorized with 1 per cent. aqueous acetic acid, dehydrated with alcohol, cleared with xylol and mounted.

Biology. The study of the biological character of this bacillus would fill a volume; the following is taken from Lehmann & Neumann's new textbook on account of clearness and brevity. It should be observed that the various members of the colon group very closely resemble them.

GELATIN PLATE. (a) *Natural size. Superficial:* At first, small, yellowish, punctiform colonies, becoming in a short time roundish, irregularly notched or delicately lobulated and shin-

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ing. The periphery is clear, transparent and gray, the center whitish, opaque, grayish yellow, sometimes slightly elevated. *Deep:* Punctiform, later roundish, or usually whetstone-shaped, yellowish.

(b) *Magnified fifty times. Superficial:* Up to forty-eight hours the colony is entirely colorless and transparent. The border is smooth and lobed. The surface presents wavy elevations, and numerous branching, strongly reflecting, whitish, winding lines, which look like incisions and scratches. The colony then appears fairly homogeneous, grayish yellow with white, curved lines and bands extending from the center, between which are to be seen concentrically arranged lines. These lines are the expression of folds in the colony. When more highly magnified (x 150), indistinct, parallel curved lines may be seen. Some of the forms seen in the colonies of bacterium coli may also occur. *Deep:* Round to roundish colonies, bright yellow, homogeneous, delicate, shaded with gray, with even borders.

GELATIN STAB. *Stab:* Thread-like, slightly granular, whitish gray. *Surface growth:* Thin, white, grayish green, iridescent, extremely transparent, roundish, notched, with a dry luster, not elevated, extending to the glass.

GELATIN STREAK. Somewhat spreading, white and thin growth, as on the surface of the puncture.

AGAR PLATE. (a) *Natural Size. Superficial:* Irregular, roundish, grayish white, shining, slightly elevated colonies. *Deep:* Punctiform, gray.

(b) *Magnified sixty times. Superficial Colonies*: Round or roundish, smooth border, bright yellow, becoming darker toward the middle, finely to coarsely punctated and transparent at the edge; from the center usually dark yellow, winding or jagged lines extend outward; morulæ are rare. *Deep:* Roundish to whetstone-shaped, border smooth or rough, brownish yellow, opaque, without internal markings, or finely granular.

AGAR STAB. *Stab:* Thread-like, sometimes a little granular, gray. *Surface Growth:* Irregularly roundish, with an almost even border, whitish gray, with an oily luster, soon extending to the wall of the tube. Later it becomes yellowish gray.

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AGAR STREAK. Moderately spreading growth, wavy, with a smooth edge, whitish gray, shining, sometimes appearing to be transparent in many places because of porosity. The water of condensation is clear, with a slight precipitate.

BOUILLON CULTURE. Cloudy with abundant sediment, which is homogeneously distributed upon shaking.

MILK CULTURE. Milk is not coagulated even after standing for weeks. In spite of active multiplication very little acid is formed.

POTATO CULTURE. From the line of inoculation the growth spreads quite widely as an extremely delicate, moist, often almost invisible layer, which, when touched with a platinum needle, may sometimes be drawn out into delicate slimy threads. This, first described by Gaffky, is now known to be neither characteristic nor constant.

Chemical Characteristics. The most special of these are, its failure to produce pigment, except sometimes upon potato; no odorous substances. It reduces solutions of litmus, nitrate to nitrite, forms lefthanded lactic acid from grape sugar, feebly from milk sugar. and produces no visible gas bubbles from carbohydrates. It does not produce indol, but Peckham claims that pure typhoid culture from the spleen may be made to produce indol when grown upon trypsinized beef muscle. The cultures are rich in toxins; the germ-free filtrates are actively pathogenic.

Vital Conditions. Grows luxuriously as an aërobe, but also as an anaërobe, and fairly well in CO_2. Its best temperature is about 37°C. The typhoid bacillus withstands drying for months; according to Uffelmann in soil and clothing for two months, but does not resist complete drying so as to be reduced to dust. It resists the most extreme cold, but alternate freezing and thawing will often kill it. It is not thermophile—ten minutes at 56°C. will kill it, and higher temperatures in less time. (Sternberg). In sterilized water it retains vitality for weeks, but pipes give up to water some germicidal property which is destroyed by boiling. (Ficke). Other water bacteria inhibit its growth. In manure and feces it may live for weeks, according to number of other germs present. Oysters retain it alive for a month. In soil fed with bouillon it may

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retain vitality for six months, and Sternberg has kept it alive in sealed bouillon tubes for a year. It is known to grow upon carbolized media up to 0.2 per cent., and Elsner's medium—potato gelatin containing 1 per cent. potassium iodid—practically kills all but the typhoid and colon; formaldehyd bouillon 1:7000 finally leaves nothing but the colon.

The duration of life in the human body varies; Sahli has found it in the pleural exudate fifty days after the beginning of the disease, and Heintze has found it in pus from periostitis ten months after convalescence from typhoid fever. Miller has found typhoid bacilli in bile seven years after an attack of fever.

Differentiation. The differential media for separating the typhoid organism have been considered in a previous paper, when I exhibited growths of typhoid and colon upon Hiss's and Elsner's media. Two new methods based upon differential acid production deserve special mention. The first is Petruschky's litmus whey, in which the typhoid bacillus is not to produce more than 3 cc. decinormal acid from 10 cc. of milk, whereas the colon will produce more than 8 cc. This is of course quite arbitrary, and varieties of both may turn up which will leave us in doubt in some cases. The other is Kashida's bouillon, which contains 1½ per cent. agar, 2 per cent. milk sugar, 1 per cent. urea, and 30 per cent. tinc. litmus. In eighteen hours the typhoid does not change the blue color, but the colon will have turned it red. A bacillus, then, which will grow upon Chantenesse and Widal's, Elsner's or Hiss's medium, forming characteristic growth, which does not produce visible gas bubbles on glucose, produces no indol, and which in the preliminary test was found motile, decolorized by Gram and clouding bouillon, and which is found to produce a maximum of gas below 3 cc., is surely the typhoid bacillus. Many negative results will be achieved, however, in contaminated water, on account of these crucial methods weeding out the more feeble typhoid bacilli in the suspected fluid.

The physiological test of Pfeiffer is quite positive. A rabbit weighing 1½ to 2 kilos is injected subcutaneously with a suspension of typhoid from three slanted agar cultures twenty-four hours old, the suspension having been kept in a water

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bath for one hour at 65°C. before injection. This attenuates it so as not to render the animal sick, but immunizes sufficiently to produce an agglutinating serum. After ten days the animal is bled and the serum collected. This can be preserved dry, or in a fluid state with 0.5 per cent. phenol. Suspected cultures can now be agglutinated as is done in the Widal reaction.

Pathogenesis. Koch's law of pathogenicity does not apply to the bacterium typhi. When Koch formulated his law he considered that some experiment animals would be as susceptible as man to any bacterial disease, a supposition now known to be erroneous. According to Sirotinin, typhoid bacteria introduced subcutaneously rapidly die, at least do not multiply in the body of animals, and the injuries resulting may be similarly produced by filtered cultures. McFarland has found it impossible to immunize horses because a slough was produced at the site of injection, preventing absorption. Chantemesse, in 1897, was able to so increase virulence as to cause symptoms and post-mortem findings similar to those of typhoid fever in man. By means of the esophageal tube and by alkalinizing the gastric juice, Koch has been able to produce lesions. Sanarelli has successfully produced animal susceptibility by inoculating with the products of proteus, prodigiosus and colon, and Alessi has succeeded in infecting rats, guinea pigs and rabbits by forcing them to inhale sewer gas.

Despite the observations of Sirotinin above mentioned and the statement in Lehmann & Neumann's book that "the cultures are rich in toxin; the germ-free filtrates are actively pathogenic," Pfeiffer and Kolle have located the toxic element in the bodies of the bacilli, dead or alive, and found it necessary to inject massive suspensions of agar cultures previously killed by heat in their experiments. It is therefore an insoluble toxalbumin. Brieger, on the other hand, separated his typhotoxin from cultures kept for some time at 37°C., and says it is a true toxin (poisonous bacterial alkaloid, having strong basic properties). It is highly probable that further investigation will show that there are two bodies, one an alkaloid, the other a toxalbumin; one having protective properties, the other bacteriolytic. The antitoxic power of the products of immunization appears to be very feeble.

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It is now definitely known, as a result of experiments with which Pfeiffer and Kolle are principally identified, that in the human body it belongs to the class of metastatic infections, the bacilli becoming localized in multiple foci, mostly in the lymphoid tissues. Upon experiment animals the disease is a pure intoxication.

Immunization. From the foregoing it appears that the problem of producing artificial immunity and a curative agent is practically unsolved. There is the problem of producing a serum which is not only protective and bactericidal but also antitoxic, and so far this has not been possible. Convalescents from typhoid fever yield a serum which is immunizing to a high degree, but animals so far treated have been small ones (dogs) and the serum is protective rather than curative. It has been proposed to inject dead cultures, according to the method of Pfeiffer, in quantities of 1 cc. of bouillon, as a prophylactic, after the manner of Haffkine's plague prophylactic. This is said to be both safe and protective.

Mode of infection. There seems to be no doubt that the bacillus typhosus in the vast majority of cases gains entrance through the mouth and stomach to the intestines through the agency of infected water or food. Vegetables have been known to be sprinkled with typhoid infected water, and milk may be contaminated, either by washing the cans with infected water or adding this as an adulterant. Oysters and even ice, may carry the infection. Flies may carry infection by contaminating food from typhoid dejecta. The infective material is mainly derived from the dejecta and urine of typhoid patients. The rose spots, epistaxal blood and clothing and the hands of attendants have yielded bacilli on examination.

After gaining entrance into the body the typhoid organism invades the lymphoid tissues. The solitary and agminated follicles of the intestine, the mesenteric glands, the spleen and even more remote lymphoid structures, become involved. Occasionally the bacillus becomes localized elsewhere, as in the cases of kidney typhoid reported first by Osler and since also reported by others. In a case reported by Mayer, in which death occurred on the second day of the disease, there were found on autopsy lesions of the lungs, spleen, kidneys and intestines,

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but nowhere a trace of necrosis or loss of substance nor enlargements of the mesenteric glands. Microscopically an extraordinary deposit of characteristic typhoid bacilli was observed in the submucosa and interstitial spaces of the muscular tissue. Sometimes the only lesions found are the localization of the bacilli and changes in certain lymphoid tissues. These must be regarded as cases of rapid absorption, producing death by intoxication before local necroses can take place.

The pathology of typhoid fever is beyond the scope of this paper. The question of the pyogenic properties of this bacillus has been definitely answered in the positive by A. Fraenkel, though pus production is doubtless due in most instances to associated pyogenic cocci and sometimes the colon bacilli. The observation of Sanarelli that typhoid fever is essentially a mixed infection is rather more discredited today since all the complications and sequelæ can be produced by the bacillus typhosus itself. Howard reports one hundred and forty-four cases in the literature of pure typhoid suppuration, and adds twenty others with mixed infection. The typhoid bacillus has been found to be the nucleus of gallstones and the colon bacillus is doubtless responsible for the most of these.

Diagnosis. The feces, urine, blood, rose spots and exudates have been utilized for obtaining the bacillus in pure culture. In the most of these, if it appear at all, it is too late for diagnostic value. Richardson has been able to cultivate bacilli from the rose spots in thirteen out of fourteen cases, though a number of spots had to be examined in some patients. This antedates the Widal reaction very frequently by a number of days, but the process is troublesome, and is, of course, only applicable where these are present. Gwyn has found as many as 50,000,000 in a cc. of urine, but if present at all, they appear late. The simplest and most useful bacterial diagnosis of typhoid infection is that known as the "Widal reaction." The bactericidal power of infected sera have been demonstrated by Charrin and Roger with bacillus pyocyaneus, by Behring and Nisson with vibrio Metchnikovi, by Metchnikoff with the pneumococcus. Pfeiffer demonstrated the bactericidal property of the peritoneum of immunized guinea pigs to cholera and subsequently with colon and then typhoid. Pfeiffer, there-

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fore, has priority as to typhoid. This was studied further by Gruber and Durham, but Widal was the first to experiment with immune serum upon typhoid cultures, and in his hands an interesting phenomenon was developed into a useful clinical diagnostic method. Wyatt Johnson found the reaction to work equally well with dried blood. Objection to this was raised later on the ground that we could not work with definite dilutions. The present speaker three years ago suggested the use of the pipet for the white cell counter, in which a 1:10 dilution can be made at the bedside. A year later this plan was accredited to Rostoki. At that time I went into the merits of the Widal reaction fully and need not repeat it here, except to mention some later observations.

It is generally held that the difference in the virulence is not of so much importance, and high dilutions are not so much in favor, except in doubtful reactions. As to my own experience, I am free to confess to having erred by using high dilutions. If the reaction is positive in ten minutes with a 1 : 10 dilution, a higher dilution can then be tried next. If it be negative, the absence of typhoid infection is definitely proved. High dilutions require longer time limits and are less desirable on this account. Horton-Smith, in his Ghoulstonian lecture, strongly advocates 1 : 20 dilution with a one hour limit, since many cases never reach the 1 : 100 strength (20 per cent.) In any event, the stock culture, which should be about three weeks old, should be known to produce a typical reaction when tried with known infected serum. Instead of making a bouillon twenty-four hour culture, a twelve to twenty-four hour agar culture is preferred, because of the greater number of bacilli in a needleful of this. I have frequently used freshly-drawn sterilized urine, previously neutralized and filtered, as a culture medium, and find it to answer well. I prefer the media less alkaline than recommended, as I have been led into trouble from increased alkalinity in media that had become concentrated from long standing and the consequent evaporation. We generally have to make the test upon dry blood collected on a slide. The best plan is to gradually add water with a platinum loop and triturate until the drop appears about as large and as dark as

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when freshly shed; from this appropriate dilutions are made. In this way the dilution can be approximated to within 25 per cent., which is enough for practical purposes. With the precautions enumerated the errors due to failure to get reactions in pure typhoid infection are materially reduced. Many practitioners still content themselves with a single negative result, although the reaction sometimes appears very late in the disease and is often transient.

The duration of the reaction after convalescence has been studied by McFarland, and as a result of these studies it is found that previous illness from typhoid fever does not vitiate the test as much as has been believed. In 30 cases the reaction was present as late as eight years only once and never later. On the other hand, it may disappear in a few months.

The Widal reaction is only a phenomenon of infection and no evidence of immunity. Relapses have occurred in cases that showed a reaction in dilutions of 1 : 2000.

Intestinal antisepsis. Although the bacillus exists in localized collection in different tissues long before intestinal lesions are manifest, the therapeutic value of intestinal antisepsis, so called, cannot be called into question. Some have doubtless placed too much value upon this, and others have underestimated it. That such agents have a systemic effect must be admitted, and this is probably how they act, for the typhoid bacilli free in the gut cannot be expected to do much harm, though associated bacteria, notably the colon, can and do produce much gas and fetor. The patient is certainly rendered more comfortable by the use of such agents.

The coëxistence of typhoid and malarial infection. Packard quotes Ewing's conclusions as a result of exhaustive studies: 1. That typhoid fever is to a large extent incompatible with active malarial fever, and that during the occurrence of the former the latter infection is usually suppressed. 2. That the presence of old malarial infection may alter the course of typhoid fever through anemia, but that the active sporulation of the malarial parasite very rarely occurs during the course of established typhoid fever. 3. Since malarial paroxysms often reappear during convalescence, a scanty growth of the parasite must often persist during the course of typhoid fever, and it is

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possible that some of the irregularities of temperature observed in these cases are referable to this partly suppressed growth. 4. That the anatomical evidence of a post-mortem examination is much needed to demonstrate the existence of typhoid fever in cases of active malarial paroxysms.

In discussing this, we must admit the correctness of these observations as far as our experience goes. Typhoid fever cases frequently do have a very decided and erratic temperature intermittence. In one such case that I saw with Dr. F. D. Smythe at St. Joseph's Hospital we found, however, a very marked chill, followed by high fever during the height of the attack. A blood examination showed active malarial infection and the exhibition of quinin caused the disease to resume its usual course.

In one post-mortem examination I made for Dr. G. B. Young, at the U. S. Marine Hospital, that had had continued fever with malarial parasites and in which no typhoid lesions were found (this was in the ante-Widal period), the patient had died of a perforation of a solitary gland and had had a diarrhea antedating his malaria and which persisted during the fever, the patient dying during convalescence, after the cessation of fever. It might be argued that this was typhoid fever with perforation, and such was my belief in the face of the blood findings, but nothing developed at the autopsy to substantiate this, whereas the malarial lesions were evident. I think the onset is complicated with malaria in very many cases during the malarial season with us. So many cases begin with intermittent fever and even return to work before finally succumbing to typhoid fever. Others terminate in typhoid fever without ever leaving the bed. Systematic study of this question is doubtless very much needed.

Prophylaxis. This begins at the bedside. Since it has been shown that the dejecta, urine and other secretions of typhoid patients may contaminate bedclothes, the hands of nurses, articles of food and drinking water and, when indiscriminately disposed of, contaminate everything else, the primary hygiene resolves itself into intelligent handling of the patient, with the object of preventing such contaminations constantly before you. If infected surroundings already exist, the aim must be to

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avoid or thoroughly sterilize infected substances, especially food articles, prevent the access of flies and attend to personal hygiene to resist accidental infection. Prophylactic injections will hardly be much in favor until more experimental evidence of its value is available.

I have not thought it necessary to append a bibliographic index. Those interested can find in a résumé by Lösener 689 references, in the *Arbeiten aus dem Kaiserlichen Gesundheitsamte.* XI, p. 207.

Randolph Building.

TYPHOID FEVER.*

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SINCE Dr. Krauss's most excellent paper on the bacteriology of typhoid fever, read at our last meeting, so thoroughly covered the etiology, I will only speak of the lesions, symptoms and treatment.

Typhoid fever is an infectious disease characterized by the growth of specific microörganisms, by fever and the development of lesions in different parts of the body. The bacillus is found in the intestine and its contents, in the blood, mesenteric glands, liver, kidney and spleen—the lymphatic glands of the intestine and the mesenteric glands being the site of their election. The bacilli, after being discharged from the typhoid patient in the dejecta, are taken into the body by ingestion, and after lying in the small intestine seemingly harmless for about two weeks, find their way into the glands in the walls of the intestine, and at once give rise to symptoms varying in severity according to the extent of the glandular infection and the toxin incident to the growth and multiplication of the germs.

In the first week the solitary and agminated intestinal glands become infiltrated and swollen. In the second week there is more or less necrosis of the glands, with ulceration. In the

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latter part of the second and the third week the glands slough. In the fourth week, under favorable conditions, cicatrization of the ulcers takes place.

The glandular involvement may be very moderate, with infiltration only, or may become rapidly necrosed, slough and perforate, and they may vary as to the number involved, those in the lower part of the ileum being first attacked, and later those higher, and even the solitary glands in the colon; those in the mesentery rarely suppurate, being only swollen.

Within recent years some fatal cases of typhoid fever have been reported without intestinal lesions, the bacilli having been found in other parts of the body.

There is around each inflamed gland an inflammatory zone giving rise to a catarrhal enteritis, varying in extent in proportion to the number of glands involved, and to which may be attributed in a great measure the diarrhea of typhoid fever. The spleen usually becomes swollen, soft, and may rupture. The kidneys show the lesions of acute degeneration or acute exudative nephritis. The hepatic cells may be the seat of acute degeneration, and the gall bladder suppurate. The walls of the heart not infrequently show signs of acute degeneration and softening. The parotid glands may suppurate, and the larynx and pharynx be attacked with a catarrhal inflammation. The lungs are not infrequently invaded by hypostatic congestion, bronchitis, decubitus, lobar or bronchopneumonia. The muscles may undergo degeneration and rupture. The peripheral nerves are more or less degenerated and may become inflamed, giving that painful condition, acute neuritis. There may be thrombosis of the femoral veins or the sinuses of the dura mater, and lastly, that to be feared in every case, even the mildest, peritonitis, from perforation of the intestinal gland, from disease of the mesenteric glands, or sometimes without known cause. One attack protects against another.

The period of incubation is about two weeks, varying from four days to four weeks; any age is liable, though the susceptibility becomes progressively infrequent after the age of 36; most common in the autumn. The invasion depends on the difference in the growth and rapidity of entrance of the ba-

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cilli. Typhoid fever is regularly a four weeks' disease; however, in any disease of such varied lesions we would expect equally varied symptoms.

Diagnosis. In a typical case the Wanderlisch or stepladder temperature is regular; that is, in the first week rising from day to day, higher in the evening, lower in the morning, but with each day the difference becomes less. In the second week a persistently high temperature, with little difference in morning and evening; in the third week a slight divergence begins, with a fall in the morning temperature, and in the fourth week both morning and evening fever grow less until it becomes normal, the maximum degree having been between 4 and 12 o'clock P.M., and the minimum between 5 and 8 A.M. But such temperatures are not always found; it may reach the highest point on the first or second day; it may be highest in the morning, or the first evening, or there may be morning intermission and a chill, followed by a rapid rise of fever, as in malaria. There may be a high temperature for one or two days, then an intermission of a week or more, after which the fever runs the regular course; this would suggest an interruption in the activity of the bacilli. There may be a slight fever for a week or more, then a sudden rise and continued high temperature, which would indicate a fresh infection of greater severity. The fever may continue with but little change for many weeks, even three months. The fever may run its entire course with only an evening temperature of 99° F., and the morning below normal, and yet the patient may be really ill.

Complications may change the course of the fever. Hemorrhage from the sloughing intestinal glands promptly reduces the temperature. Regular bathing modifies the temperature range, and antipyretics reduce it in proportion to the size and frequency of the dose. Coëxisting malaria may cause irregular exacerbations. The height of temperature is regularly in proportion to the severity of the attack, though a case may prove fatal with never a high temperature. The pulse regularly follows the temperature; in the second and third weeks it becomes more rapid, more feeble and dicrotic.

Headache, restlessness, irritability and insomnia occur in

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the first week. Gas or gurgling in the right iliac fossa is of little or no importance, as it may be found in any form of intestinal indigestion, though tenderness would suggest the presence of ulceration. Apathy in the second, though in rare cases the characteristic apathy may be wanting even in fatal cases. Alternating delirium and stupor in the third, but in rare cases violent delirium and headache may come in the first days, as in meningitis. The eruption on the front of the chest and abdomen, and sometimes on the back in a few, or many rose-colored spots, should appear between the seventh and twelfth days, though sometimes later. Relapses are marked by a fresh eruption.

The tongue described as a typhoid tongue I do not think of much significance, as it may be seen in cases of catarrhal gastro-enteritis, a much more common disorder in this climate than is typhoid fever.

Nausea and vomiting are often present in the first week, but may appear later from distension or peritonitis. Marked distension may so disturb the heart's action and respiration as to be alarming. Diarrhea, a regular symptom, may precede the fever or not appear until the second or third week, or not until a purgative is given, and in many cases not at all. A severe diarrhea is an alarming symptom. Epistaxis early or late is of no consequence except for its diagnostic value. The eyes and ears in the third or fourth week may become somewhat insensible to light and sound. Subsultus tendinum and muscular tremor, indicating deep sloughing of intestinal glands, bedpicking and involuntary discharges of feces and retention of urine belong to the third or fourth week, and are serious symptoms. Intestinal hemorrhage from congestion of the mucous membrane of the bowel may occur early in the disease, but hemorrhage from sloughing glands regularly belongs to the third or fourth week, and yet we may have it from a sloughing gland early in the disease.

I have seen a severe hemorrhage in typhoid fever on the fifth and repeated on the sixth day. Perforation of an intestinal gland may occur as early as the second week or later, even after convalescence, and may occur in the mildest cases. I have twice seen perforation and death in walking cases, neither

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of the patients having spent an entire day in bed. An autopsy was made in each case and perforation found.

In the fourth week in favorable cases all symptoms abate, and convalescence begins in the fifth week. If the case is to be continued, the symptoms of the third week continue through the fourth and longer. Convalescence may be interrupted in many ways. Relapses seem to be fresh attacks caused by infection from the patient's own body, and usually last about two weeks; there may be varied or irregular cases, mild or walking cases with little or no temperature. Short forms of only fourteen days duration, protracted forms of many months, or afebrile forms with only an evening temperature of half a degree, and typhoid complicated with malaria, a form of much interest to us. In the summer and fall of each year we find ourselves day after day by the bedside of patients presenting this variable climatic history and picture. In one case there will be well-marked attacks of intermittent malarial fever preceding the remittent, and in another an increasing sense of malaria with headache, frequently in the back of the head, and much general bodily aching, with loss of appetite, with either loose bowels or constipation, and in still another a sudden invasion with chill and fever, or fever of 104°F., accompanied with distressing nausea and expulsion of quantities of bile. In all of these, regardless of the manner of invasion, we give the regulation treatment of calomel and quinin, and an antipyretic if needed. On the next day we find our patient more comfortable, but the fever continues, the quinin is repeated, and after the administration of from 30 to 60 grains at each visit, we find one with a higher temperature, and another with less than on the first days, the scleræ and skin slightly jaundiced, urine red, tongue coated on either side, increasing backward, a depressed dried line down the center, and edges and tips red and pointed, or the tongue may be coated white or brown over its entire surface, or it may be pale and wide to the full capacity of the mouth.

The pulse may be slow or fast, the mind clear and anxious about the duration of the attack, the patient saying he felt comfortable except for the height of temperature, which is very variable, often reaching its highest point on the first day,

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or its height may be attained at six o'clock in the morning, rarely running a stepladder or distinct course. Our visits are continued.

The younger physicians, fresh from their textbooks and lecture halls, persist in the use of quinin, and the older ones, seasoned by their bedside experience, content themselves with an expectant course of treatment. On examination of the abdomen the spleen is easily palpable, the liver slightly tender, ilio-cecal gurgling may or may not be present. At each visit we notice an increased pallor of the entire body, telling us of the loss of red blood corpuscles. We anxiously look for the characteristic roseola, which never appears. The restlessness, anxiety and mental activity continues, except an occasional transitory delirium changing with the exacerbation of temperature. The relaxation, prostration and habitude of a typhoid infection never present; the facies, which to me is one of the strongest points in diagnosis and seems almost to speak these words, "No typhoid here," is also wanting. After some days or weeks the patient recovers, there rarely ever-occurring a death. This is a brief clinical picture of that condition which from want of a better name I would call "pseudo typhoid fever." A fever of a typhoid course, without the most characteristic lesions, and without the bacillus. Dock, formerly of Texas, now of Ann Arbor, by a careful analysis found that nearly all of our so-called malarial fevers are typhoid.

In Osler's Practice of Medicine we find these words: "I am inclined to think that future observations will show that apart from the thermic fevers there are only two forms of these continued fevers in the South; the one due to the typhoid, and the other to malarial infection." He also says in treating of the estivo-autumnal fevers, remittent fevers, bilious remittent fever, and typho-malarial fevers, and I may add the Southern provincialism, "slow fever," "the fever yields as a rule promptly to quinin, though here and there are cases, though rarely indeed in my experience, which are refractory." Tyson says, "such study as I have been able to give to the subject impels me to say with Osler, that all of the continued epidemic fevers of the South may be resolved into typhoid or malarial fevers, and the treatment of remittent fever is essentially that of intermittent

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fever." I do not question for a moment but that our continued fevers, which in the past summer have been so prevalent, depend either upon the typhoid or malarial germ for their infection, but upon which is a problem not easily solved. Many eminent physicians who practiced in malarial districts prior to the identification by Laveran and Eberth of the specific microörganisms of the two fevers, among whom may be mentioned Prof. Samuel H. Dickson and Austin Flint, Sr., believed that typhoid and malarial fevers not infrequently occurred in combination, and for convenience Jos. W. Woodward suggested the term "typho-malarial fever," denoting the coëxistence of the two infections. There seems to be no doubt that the typhoid bacillus may coëxist with other pathogenic microörganisms, causing mixed lesions. Murchison reported eight cases of typhoid and scarlet fever coëxisting, and in a number of cases have been found the tubercular and typhoid bacillus. But of all the mixed diseases, that so-called typho-malarial fever is to us of the Mississippi Valley the most important.

The presence of the typhoid and malarial germs in the same subject is certainly very rare. The small mortality, had we no other proof, would indicate the infrequency of their coëxistence. In an analysis of 2122 cases of malaria, typhoid fever was associated in only 8.1 per cent., and notwithstanding the rarity of the union of the two bacilli, I believe the term offered by Woodward, viz., typho-malarial fever, a good one; one more expressive than any other now in use of the true condition of the majority of the fever cases in the South which are today called typhoid fever. Not that I would use the term to convey the idea of a mixed infection, but indicating a malarial fever which assumes a typhoid state, that is, a state of slow convalescence, which typhoid state may be due to a toxin generated by the growth and multiplication of the malarial germ remaining in the spleen, liver and bone marrow resisting the toxic effect of quinin, and if it be true that quinin does not destroy the estivo-autumnal germ which we are taught by clinical observation to be true, I would suggest that the ameba causing the estivo-autumnal fever was of a different generic species, but I believe that the continuance of the

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fever with its concomitant symptoms is due to a catarrhal inflammation of the gastro-intestinal tract produced by the parasites in their first invasion previous to the administration of quinin. The height of the temperature often reached in the course of the fever may be caused by the ptomains of gastro-intestinal fermentation going on in this impaired digestive tract. Typhoid fever, with its mortality of 8 to 20 per cent., is, I believe, a disease very much less frequently met by members of this society than is the remittent fever of malaria, and yet we hear of it in numbers in every part of the city and adjacent country, but rarely know of a death. I know of no differential diagnosis which taxes the capacity of the physician more than that of typho-malarial fever.

The variability in the invasion of malarial remittent, and the steadiness of typhoid after the fastigium is reached, forms a marked difference, and when we are confronted with such cases as Lewis and Jackson saw, and as were so graphically pictured by Wood, Watson and Flint, our task is easy, but when with cases described by Osler, Anders and others, and investigated by Burk, of Texas, then we must not expect the clinical picture with a stepladder temperature. The tongue, the eruption, the facies and apathy, the dicrotic pulse, the muscular tremor, the diarrhea, bowel hemorrhages and sloughing of parotid glands, with the stupor and delirium, but must rely solely upon the Widal reaction, which I believe Dr. Krauss stated was reliable in 97 per cent. of cases, and which the New York Board of Health concludes gives the reaction from the fourth to the seventh day in 70 per cent., and from the eighth to the fourteenth day in 80 per cent., and in the third and fourth week 90 per cent., and absent throughout in from 5 to 10 per cent.

Table of Symptoms.

REMITTENT FEVER.	TYPHOID FEVER.
Onset generally intermittent. Irregular remissions.	Onset gradual and progressive; regular, though very slight morning remissions with evening exacerbations of temperature.
The temperature may arrive at 40 (104) within 24 hours.	The temperature does not reach 40 (104) before the third or fourth day.
Headache rare in the beginning; of a neuralgic character, pulsating, variable in its position and intensity. Sclera subicteric from the onset.	Headache from the beginning, permanent, severe frontal. Sclera white.

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REMITTENT FEVER.	TYPHOID FEVER.
The apathetic expression of the face, the dryness of the tongue, sordes upon the teeth, are not very marked.	These symptoms are well marked and progressive.
Breath foul.	Breath has a peculiar mouse-like odor.
The delirium may come on in the early days; it is recurrent, but changes with the exacerbations of temperature and other symptoms, and may give way to grave symptoms related to other organs.	Delirium appears only when the disease is well pronounced; it is often persistent and variable only in degree.
If there be pulmonary congestion, the cough and other symptoms come on suddenly; the areas affected change from one to the other lobe or lung and may disappear and reappear again with varying intensity; dyspnea is very pronounced; circulatory disturbances are marked, even syncope.	Pulmonary congestion is gradual and persistent; always hypostatic (the bases and dorsal surfaces of the lungs); the dyspnea is less pronounced and later in appearing, depending more upon the abdominal conditions (tympanites, etc.).
There are usually restlessness and anxiety (jactitatio corporis).	There are usually relaxation, prostration, stupor.
Peculiar grayish color of skin; sometimes a slight jaundice.	No jaundice.
Herpes common.	Herpes rare.
Anemia more or less marked early in the course.	Anemia absent, excepting in later stages.
No characteristic exanthem; urticaria not uncommon.	Characteristic roseola.
At times there may be transient tympanites or ileo-cecal gurgling; they are but slightly pronounced and paroxysmal; diarrhea is slight or absent, and has not the characters of that in typhoid fever.	Tympanites, gurgling, diarrhea appear slowly and may become well marked.
No distinct course.	Has a fairly characteristic course.
Urine high colored; may show a trace of bile; Ehrlich's diazo-reaction rarely present.	Urine high colored; bile absent, diazo-reaction present during the height of the process.
Blood shows no leacocytosis; eosinophiles not notably diminished; serum does not cause agglomeration of typhoid bacilli (Pfeiffer, Durham and Widal); malarial parasites and pigmented leucocytes present.	Blood shows no leucocytosis; eosinophiles diminished or absent; serum causes agglomeration of typhoid bacilli; malarial parasites and pigment absent.
Fever disappears under quinin.	Fever uninfluenced by quinin.
Is an endemic disease, occuring particularly in rural districts; rarely epidemic.	Usually epidemic; prevailing commonly in cities.

Treatment. To bed should be the first order of the doctor, and as a prophylactic to others, all dejecta from the patient should be received in a vessel containing a sufficient quantity of disinfectant fluid before being emptied into the common receptacle. All soiled clothes and bedding should be well disinfected before washing, and persons living in that locality should be very careful about drinking the water and milk of

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the place. The patient should at once be kept on fluid diet, and just here, it is useless for me to suggest anything until the regulation course of calomel, quinin and some antipyretic has been given to the satisfaction of the attending physician. And then the quicker we realize that we have no specific treatment for typhoid fever, and have no bowel antiseptics with which we can reach the microörganism, but must treat the patient for typhoid fever, the better will be the result. In the first week it may be necessary to give some hypnotic or anodyne to relieve the headache, restlessness or pain in the bowels. A few grains of calomel with regulated diet relieves the nausea and vomiting. If constipation attends after the calomel has acted give a cold water enema as needed. If diarrhea is troublesome, opium may be needed, but cold bathing usually stops loose bowels. The mouth and tongue should be cleansed daily with some disinfectant. Temperature should be kept down with cold bathing, tubbing or packing from the first day of the disease. Antipyretic drugs should be used sparingly, yet there is no objection to an occasional dose of some antipyretic, when by its use the fever can be reduced, pain and restlessness relieved, and sleep induced.

It is not in every case that cold bathing can be intelligently had, and in such cases I find thermol in 5-grain doses would serve a better purpose than any other antipyretic of its kind. It seems to hold the temperature down when repeated every four hours with less vacillation and prostration than any other of the antipyretic drugs.

For the disease itself, the most efficient treatment is the application of cold water begun early. Delafield says "the temperature as such does not add to the danger of the disease nor require treatment. The systematic use of cold baths of a temperature of 65°F. lowers the mortality of the disease, but not because it lowers the temperature."

It is generally conceded that cold bathing lessens the mortality. For a failing heart in the second week, digitalis, strychnia and alcohol serve the best; alcohol is not only a stimulant to the heart's action, but being so diffusible and combustible furnishes food for the fever, thereby lessening the oxidation of tissue. When there is too much distension of the bowels,

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cold applications—the ice bag—or in some cases hot fomentations to the abdomen, and the internal use of small doses of castor oil or turpentine, seems to meet the indication better than any other.

If much subsultus and tremor, give opium or compound spirits of ether.

For hemorrhage from a sloughing gland in the intestine, or even as a preventive, I think I have gotten better results from nitroglycerin than from any other treatment; its effect is in dilating the vessels throughout the body, lessening the blood pressure in the gland.

Opium and astringents are the old remedy from which I have never gotten any results other than checking the peristalsis of the bowel, which at that time is usually at a standstill from gaseous distension.

In convalescence, the principal point is to make the transition from fluid to solid food, and this must be done very cautiously, but it may be done on the fourth or fifth day after subsidence of temperature, beginning with scraped beef or mutton. When the fever continues much beyond the usual duration, I find it well to begin feeding with some solid food, even before the fever subsides. The strictest attention should be given to the room of the patient; the surroundings should be cheerful, yet quiet, and cleanliness and light should be in the room. Water should be given throughout liberally.

DIAGNOSIS AND TREATMENT OF DIPHTHERIA.*

BY JOHN PELHAM BATES, M.D.

ST. BETHLEHEM, TENN.

Symptoms. The incubation period is very variable, so much so that little diagnostic value can be placed upon it.

Invasion. The child may complain of chilliness, slight indisposition, aches and pains in head, back or limbs, with a rise of temperature, not usually high, 101–102°F. Pulse rapid and compressible. The pulse is usually rapid out of proportion to the rise in temperature. There may be, when first seen, a

* Read before the Montgomery County Medical Society, December 13, 1901.

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considerable degree of prostration. The tongue is coated with a whitish or brownish fur, edges red, and later becomes dry. The patient may complain of some soreness of the throat or, perhaps, no reference will be made to the throat. On examination of the throat (a procedure that should be a routine practice on the first visit to all children) it will be found red and swollen, patches of false membrane will be found on the tonsils, sometimes giving the appearance of small ulcers, but on close examination the ulcer-like appearance will be found on and not in the structures. These patches spread and coalesce, spreading up the half-arches to the uvula, to the posterior nares and pharynx. The pseudo-membrane is at first whitish or ashy gray, but with continuance of the disease may become yellowish or brown or even reddish brown from the admixture of red blood corpuscles. The membrane is removed with difficulty and leaves a raw, bleeding surface. It rapidly reforms and is often shed and reformed during the course of the disease.

The glands at the angle of the jaw and side of the neck are enlarged and painful. The inflammation in these glands sometimes goes on to suppuration. In severe forms of diphtheria the whole side of the neck may become tense and brawny. There is an ichorous discharge from the nostrils, especially when the posterior nares are involved, that excoriates the corners of the nostrils and the upper lip. When secondary infection takes place, which it does early, the breath has a foul or fetid odor. The urine has the usual febrile characteristics and contains albumin by the second or third day. According to Anders, albuminuria is such a constant concomitant that it may be classed as a symptom of the disease rather than sequel. These symptoms are such as are found in cases of medium virulency, but this disease ranges in symptomatology all the way from slight indisposition to sloughing and gangrenous condition of the throat, or to death in the first day or so from the overwhelming of the system by toxins, leaving scarcely any local signs of the onset.

Laryngeal Diphtheria. The onset of diphtheria in the larnyx does not usually cause much systemic disturbance, because of the different histological structure of the laryngeal and

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tracheal mucous membrane from the pharyngeal. It does not, first, permit the bacteria to penetrate so deeply into the structures; second, allow so ready absorption of their toxins; and, third, is not so accessible to secondary infection from streptococci and staphylococci. Therefore, its symptoms are those of a local obstruction. The fever does not usually run high, 100 or 101°F., and, according to most authorities, the temperature may often be normal. The onset is usually gradual. The breathing becomes difficult; there is characteristic cough, ringing and metallic, brassy (Osler), and it is truly said if once heard it is never forgotten. As the obstruction increases all the symptoms of impending suffocation are seen.

Differential Diagnosis. The diseases likely to be confounded with diphtheria are acute tonsillitis and scarlet fever. In acute tonsillitis the onset is abrupt, often ushered in with a chill; the fever rises high, 103–104°F.; pulse full and bounding and not compressible. The tonsils are swollen, but have no membrane. There is sometimes an exudation on the tonsil resembling a diphtheritic membrane, but it is easily wiped away and does not leave a raw and bleeding surface. Not often much enlargement of the glands at the angle of the jaw and never any of the cervical lymphatics. There is only a trace of albumin, and that only due to febrile characteristics. Scarlet fever is again abrupt in its onset, the fever running high. There is nausea and vomiting. The rash appears in twenty-four or thirty-six hours, usually first on the neck and chest; it is a diffuse, erythematous rash, dotted throughout with small red points. There is sometimes a rash in diphtheria, but not dotted with these small points. The pulse in scarlet fever is full, tense and rapid. The pulse in diphtheria is rapid, but soft and compressible. The tongue in diphtheria is smooth, and at first covered with a whitish fur. The tongue in scarlet fever is dotted with raised red points, the characteristic "strawberry tongue." The inflammation of the fauces often can not be differentiated. The five cardinal symptoms I shall lay down for differentiating diphtheria from tonsillitis and scarlet fever are: 1, an illness of gradual onset, with a moderate fever and rash; 2, a rapid, compressible pulse; 3, soreness of the fauces, with or without diphtheritic membrane;

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4, enlarged and tender glands at the angle of the jaw and side of the neck; 5, albumin in the urine appearing by or on the third day of the illness. The severity of the disease depends upon three definite factors, 1, the virulency of the specific bacteria; 2, the amount of secondary infection, and, 3, the vital resistance of the patient.

Treatment. In outlining a method for combating diphtheria we must remember that we are dealing with a specific infectious disease, and that the law of all specific infectious diseases is to elaborate an unknown substance within the human economy that is antagonistic to the growth and development peculiar to the given specific organism, and that, provided the vital resistance holds out, their intrinsic tendency is toward elimination of all toxic materials and to recovery. Then, in view of this well-established law, we shall divide our treatment under five heads: 1, To conserve the vital resistance; 2, to introduce from without an artificially prepared substance that antagonizes the growth and development of the specific organisms; 3, to prevent secondary infection; 4, to assist in elimination of toxic material, and, 5, to avoid and care for complications.

1. To conserve the vital resistance. The patient should be placed in the most favorable surroundings his circumstances will permit; an equable temperature should be maintained—65–70°F.—the air in the room kept moist with steam; the food nutritious and concentrated, in liquid form; it should be given every two or three hours. If vomiting is a troublesome symptom we give (by rectum) peptonized milk, to which whiskey may be added. Starr (*Amer. Jour. Med. Sc.*) suggests that a normal salt solution of 3 or 4 oz. be injected into the rectum half an hour before each injection of food. This insures the absorbent capacity of the bowel. If paralysis of the facial muscles supervenes we shall again have to adopt rectal feeding or feeding through a tube in the nostrils. Stimulation must be commenced early. Strychnia and whiskey in full doses are our sheet anchors here. Pepsin and hydrochloric acid may be given to aid digestion.

2. To introduce from without a substance antagonistic to the growth and development of specific bacteria. This we

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believe we do in the use of diphtheritic antitoxin. The statistics I have at hand from good observers to prove the above proposition I find vary between too wide limits to allow us to be dogmatic on this head. They vary all the way from 4 to 20 per cent. death rate. Though Flint pointed out long ago that little reliance could be placed on statistics as proving the efficacy of any method of treatment in diphtheria, because it is a disease varying so widely in virulency in different epidemics, not only varying widely in different epidemics, but varying also in different localities during the same epidemic. However, I offer some figures I believe fair and just to both sides of this question and which satisfy my mind that antitoxin does meet the requirements of our second proposition. At Salford, England, I find for the years 1888–9 (as reported by Maguire, in Guin's Medical Dictionary), a death rate of slightly above 26 per cent. I have selected these English figures because of the strict laws governing reports of infectious diseases in that country, which gives assurance of their correctness. Again, I take the health reports of New York and Philadelphia (*Med. News*), covering a period from March and June, 1900, inclusive, taking at random seven weekly reports during this period, and find a death rate of 20 per cent. These figures come from all conditions of life in large cities and are probably the most unfavorable we can find for antitoxin. Yet we find even under these circumstances a gain of 6 per cent. Make all the allowances for more mild cases being reported, because of bacteriological examination and more favorable sanitary surroundings, and the balance are so in favor of antitoxin that we must accept the dictum that "antitoxin has passed the stage of experimental medicine."

Antitoxin is a specific in diphtheria per se. But there are few of us called upon to see or can diagnose a case of diphtheria before it has passed out of the stage of diphtheria pure and simple; we are already confronted with secondary infection. And moreover, the toxins liberated by the diphtheritic bacillus are already absorbed into the system, and the evils done by them are accomplished, in proportion to the amount absorbed. Therefore it is unreasonable to expect antitoxin to heal the

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kidney lesions, to relieve heart weakness, or to check paralyses that have supervened, or to inhibit secondary infection. It does not do all these, *but it does check the growth of the disease where we find it.*

All the above goes to prove the contention of all observers, that for antitoxin to do its best it must be used early. The doses vary from 1000 to 3000 units, and even higher, to be repeated in twelve to twenty-four hours, according to the indications.

3. To prevent secondary infection. We use various antiseptics, in form of gargles, sprays, local applications, syringing and douches. Personally I prefer douching with a fountain syringe after the method of the Willard-Parker Hospital (American Textbook of Applied Therapeutics). The little sufferer is wrapped in blankets, covering his arms and hands, and pinned snugly; he is then placed on his side and ready for the wash; the syringe is put at any desired height. The drugs that have stood the test of time are: Boric acid, saturated solution; peroxid of hydrogen; ventrol, diluted, one to three times, and permanganate of potash, 1 to 3000 or 4000. The permanganate is indicated when the discharges are of a foul odor. The washings should not be used oftener than two to three hours, and should be as thorough as the patient will permit, this usually being the most difficult part of the task—the little fellow's permission. I notice that one writer in the American Textbook of the Practice of Medicine recommends a washing or spraying of the throat every half hour in the day time and every hour during the night. Such a practice is absurd, and would wear out both the nurse and the patient, regardless of the disease. I mention this only to condemn it.

4. Elimination. The action of the kidneys is first to be considered. As has been shown, they are early affected and crippled in their action. They are best stimulated by a full allowance of good cold water; the patient should be encouraged to drink it freely. Next we have the wet pack, which I like tepid and changed about every two hours. It meets several indications in this affection: (*a*) It increases the urinary flow; (*b*) It stimulates action of the skin, thereby assisting

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the kidneys in elimination; and (*c*) It lowers temperature, where this factor has to be taken into account. If the pack is not thought best for any reason, warm or tepid sponging may be substituted. Elimination through the bowels is most important. Enemata do not answer our purpose here. We want to clear out the entire alimentary canal in order to get rid of the poisonous material and swelling from the local lesion which are rapidly absorbed from this channel. I believe this is one of the greatest factors in the early and profound prostration of sepsis found in this affection. In proof of this I cite a case I once saw of a child who had an abscess from a carious tooth. The pus could not be expectorated, and she died in a few days with all the symptoms of sepsis. For the purpose of clearing out the bowels, administer small doses of calomel frequently repeated till a grain or two is given, according to the age of the patient; this may be repeated as indicated. Where this seems to be too severe, we may use citrate of magnesia or the sulphate.

Under this head—elimination—where the patient is old enough to bear it, blood-letting should again be brought into use. According to E. Pilutti (*Cin. Lancet-Clinic*, November 9, 1901), "when an animal's blood was loaded with a given quantity of poison and the animal doomed, it could be saved by bleeding, which, by drawing off the poison at the same time with the blood, rendered non-mortal the toxic dose circulated in the economy." Poison from acute disease may simulate mineral poison closely; it may arise from any source and overflow the organism. And further: "It may be that all issues are closed, the kidneys may not functionate, the skin transpires feebly, the intestine itself is sluggish; these organs, too, may be weak and diseased, powerless in a struggle for rapid elimination against an imminent peril." He states, too, that "Bouchard has demonstrated that one ounce of blood in a uremic patient removes more injurious matter than 280 grams of diarrheal liquid, or 100 litres of sweat." This being true, what disease fills the graphic description just quoted better than diphtheria? The system is loaded with toxins; all the sources of elimination are more or less depressed; therefore I can see no more rational method at hand for relief

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than blood-letting. A given quantity should be drawn, and the same quantity of normal salt solution be ready with proper instruments to be returned into the vein from which the blood is drawn. The normal salt solution will aid us by its physiological stimulation, as well as its physical action by flushing out the system.

5. To avoid and care for complications. The complications coming in the scope of this paper will be where the membrane begins in the larynx (laryngeal diphtheria), or where it extends downward. If these conditions cannot be met by the timely treatment outlined above, we may give an occasional emetic for its mechanical effect in removing the membrane. Our last resort will be intubation and tracheotomy. Such complications as lobular pneumonia, neuritis, nephritis, heart failure, etc., now become new diseases, and must be treated of under their respective heads, and do not fall under the scope of this article.

PREPARATION OF THE PATIENT FOR SURGICAL OPERATION.

Anesthesia and the Prevention of Shock.*

BY STEPHEN E. RICE, M.D.
MEMPHIS.

PREPARATION of the patient includes—

1. General measures directed to building up the patient.
2. Local measures to render the field of operation aseptic.

In the first place we must understand our patient thoroughly. A systematic examination of all the organs should be made, with especial attention directed to those points which a consideration of the family and previous personal history would lead us to suspect. The mental condition should be considered, so that any deviation from normal may receive our attention in time to avoid a post-operative dementia. If there is a disposition to melancholy, a short period among bright, happy scenes may restore to normal. Perhaps there is hysteria; then quiet and repose are indicated. The heart, lungs, spleen and

* Read before the Memphis Medical Society, January 21, 1902.

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liver are carefully examined, and if diseased, or their function disturbed, appropriate remedies are prescribed. A subacute bronchitis or area of delayed resolution in the lungs should postpone the operation for several weeks to test a course of alteratives; if there is failing compensation, as denoted by a weak pulse and sluggish capillary circulation, a period of rest will steady the heart and enable it to stand the shock of operation; if the spleen is markedly enlarged, as is not infrequently the case in this climate, a prolonged course of arsenic should be given, and in some cases a month or so should be spent in a higher altitude. In considering the liver, we not only take into consideration the size as indicated by palpation and percussion, but whether the bile it secretes is poured out in a normal quantity into the intestines; we may judge of this by the color and condition of the feces and the presence or absence of fermentative gases in the bowel. When not conducted into the intestines in proper quantity, it is taken up by the blood and eliminated by the kidneys, so that we have a ready chemical test to determine if the liver is acting properly; if we can find a trace of bile in the urine, it indicates that the liver is not acting well.

Dr. Augustin Goelet suggests that as long as the addition of a few drops of c. p. nitric acid to urine causes a yellowish or brownish discoloration, the operation should be delayed, and active cholagogue cathartics administered, contending that a proper discharge of bile into the intestines is essential not only to render the tract aseptic, and thus avoid gaseous distension during and after operation, but also as a preventive of many of the unpleasant effects of the anesthesia. He attributes attacks of syncope and sudden arrest of respiration during anesthesia to improper preparation in this direction. He also considers prolonged nausea and headaches following the anesthesia to be due to the same cause.

For the condition of the kidneys, we depend entirely on the urinalysis. Tests should be made for albumin and sugar, the reaction, specific gravity, and the quantity of urea passed in twenty-four hours; also a microscopical examination for pus, blood, and epithelium and tube casts. If the results of examination indicate an acute nephritis, rest, diet and treatment

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should be prescribed until the acute symptoms have abated. Of course we cannot hope to get rid of a chronic nephritis, nor frequently of all evidence of an acute attack, but if there is deficient excretion of urea, with or without organic lesion, we must delay operation until proper treatment has restored the normal function and tone of the organ. In other words, an organic lesion does not necessarily contraindicate operating, but a serious functional disorder is an absolute contraindication for the time it exists, save for those in extremis.

Now, having assured ourselves that every essential organ is acting satisfactorily, we may proceed to certain general rules for governing the last three or four days prior to operating. Each day an active cathartic sufficient to produce two free movements should be given, and in the evening preceding the operation the lower bowel should be washed out thoroughly with a copious warm water enema. The diet should be regulated; foods that ferment readily, such as sweets and starches, and those that have a bulky residue, should be eliminated.

We desire to have the intestines flat and empty of both food and gas at the time of operation; so if in spite of a carefully regulated diet, free catharsis, and an active liver, some distension persists, it is well to give an intestinal antiseptic, such as betanaphthol or bismuth salicylate, three or four times a day, and at the same time use a large high rectal enema containing turpentine or asafetida once daily, until the abdomen becomes flat and soft.

Only soft or liquid food, according to the patient's strength, should be given on the day preceding the operation, and nothing within six hours of the time of operating.

The skin should be given especial attention as an important organ of elimination, sponge baths once daily, either hot or cold, according to the patient's temperament, and where possible, massage and occasional applications of a mild faradic current will bring about free action of the skin glands and thus relieve much of the strain on the kidneys during the period of severe depression immediately following operation, when life and death are so evenly balanced that every grain of poison promptly removed by active organs of elimination

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is equal in value to two grains of stimulus, for it removes the clog from a struggling heart when stimulation would but embarrass the more.

The measures I have considered heretofore have been directed to building up the vitality of the patient for the purpose of overcoming the shock of operation, and for resisting the invasion of microörganisms should they be present. We will now consider the means by which we can remove or destroy these microörganisms, so that the field of operation will be aseptic. The patient should have no suppurating areas on the skin; should be given a tub bath on two successive days in hot water, and should be well scrubbed with aseptic soap. The soap is one of the hardest things about an operating room to maintain sterile; the only satisfactory plan I have used is to keep a sterilized liquid soap in a 3 or 4-ounce bottle with a stellichoute stopper, which permits of shaking out a small quantity without contaminating the rest. The method of dipping soiled fingers into a bowl of soap is very objectionable.

On the day preceding operation, if the field of operation includes a growth of hair, this should be shaved off smoothly and an aseptic soap plaster applied for two hours. The plaster is then removed and the parts thoroughly scrubbed with hot water and a good stiff brush. The object of this is to soften the cuticle and remove the upper layer with the dirt, grease and disease germs it always harbors; alcohol and then ether is poured on to dissolve out any particles of grease left from the scrubbing, and finally a douching and rubbing with 1–3000 bichlorid of mercury or some other active antiseptic, to destroy the organisms left exposed by the scrubbing. It is almost impossible to remove all microörganisms by mechanical means, they burrow so deeply into the tissues, so it is necessary to supplement our cleansing processes with an active germicide which will destroy most of the organisms and inhibit the development of others.

Finally, a gauze pad saturated in 1–3000 bichlorid of mercury is placed over the surface prepared and held in position until the patient is brought to the operating table. Then, if we feel satisfied that it has remained undisturbed, it is removed, the parts rinsed with sterilized water to remove the mercury,

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then with alcohol, and again with sterilized water, and the operation may begin. If there is any doubt of the bichlorid pad having been misplaced, it would be well to scrub with sterile soap and water, rinse with alcohol and then with sterilized water.

As far as the shock of an operation is concerned, one of the best preventives is a thorough preliminary improvement of the patient's health. The operation should be conducted as promptly as possible, and care should be exercised to prevent undue traumatism. Vital parts should not be left exposed to the air, but wrapped in towels wrung out of hot water. The parts of body not being operated on should be kept well covered, and if necessary hot bags or bottles applied to maintain warmth. It is well to give $\frac{1}{60}$ grain strychnin sulphate at the beginning and repeat every twenty or thirty minutes during the operation, and if the pulse or respiration flags it may be given in larger quantities with other stimulants. Possibly the best stimulant for the depression of a prolonged or severe operation is saline hypodermoclysis, both to maintain strength and to promote reaction. The temperature of the room should be around 75°F. Even though somewhat warm for the operator, it is best for the patient.

In regard to the anesthetic, I shall not start a discussion into the relative merits of chloroform and ether. It has been threshed over so often that it would not be profitable. I use ether unless there is a distinct contraindication, as in atheroma, bronchitis or nephritis, when I operate hurriedly and do not have time to examine into the condition of the kidneys, and also when the anesthetist has never given ether but is experienced in the use of chloroform.

There are several important points to note in the administration of any anesthetic. First of all, the anesthetist should understand the physiological effects of the anesthetic in its various stages; he should give his entire attention to watching these effects so that he may have the patient thoroughly insensible during the course of the operation, and yet by knowing and regarding the symptoms of approaching danger, not push beyond the second stage. The anesthetist should be entirely responsible for the condition of the patient during

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the operation. He should control the stimulants and should not consult the operator unless he thinks that waning strength demands expedition in operating. On the other hand, a like courtesy is due the anesthetist. He may be admonished of incomplete anesthesia or of approaching coma, as indicated by the darkened blood, but he should not be worried by unnecessary questions or recommendations.

Most of the struggling and choking sometimes present in the beginning of ether anesthesia can be avoided by giving it very slowly, starting with a whiff, and gradually approaching the cone until it fits closely, and then increasing the strength of the vapor. My test of the quantity to use is the toleration of the patient. Once the cone is fitted down, as long as the patient breathes regularly I push the anesthetic until the air is completely replaced by vapor. If there is coughing or choking, I permit sufficient air to enter to quiet these symptoms.

As to the after effects of anesthesia, a thorough preparation of the patient will prevent most of them, and quiet, careful nursing will dispose of the remainder very promptly.

Equitable Building.

PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

The Malnutrition of Tuberculosis.

F. M. Crandell (*Arch. of Pediatrics*, vol. 19, no. 1) says:

1. Wasting, anemia, and other evidences of malnutrition are constant accompaniments of tuberculosis in children.

2. These symptoms may occur in infants long before local disease can be detected and occasionally no local signs whatever are manifest before death.

3. In infants, tuberculosis shows a special tendency to be disseminated or to conceal itself in the deep tissues, as the lymph nodes. The disease may then run a course identical with simple marasmus.

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4. In some cases a period of anemia and wasting is followed by a stage of irregular fever, after which local lesions appear, usually in the lungs.

5. In other cases tuberculosis in children begins with well-marked local manifestations, particularly pneumonia. In these, evidences of malnutrition appear promptly and are usually progressive.

6. The anemia of tuberculosis, whether it appears before or after the occurrence of other symptoms, is a usually simple anemia and presents nothing characteristic.

7. A diagnosis of tuberculosis cannot be made alone from the character of the anemia or the malnutrition. However, persistent and increasing malnutrition in a child without discoverable cause is always suggestive of tuberculosis.

8. Anemia in adolescents should receive prompt and active attention, for it vastly increases the danger of tubercular invasion, which is particularly common at that period of life.

Chronic Myocarditis.

J. H. Musser (*Med. News.*, vol. 80, no. 2) says:

We may say that myocarditis may exist 1, without definite physical signs; 2, with signs of moderate cardiac hypertrophy, marked reduplication being the only physical sign and of significance only when coupled with signs of endarteritis; 3, with physical signs of dilatation; 4, with physical signs of fatty degeneration; 5, with the physical signs mentioned, which in the aggregate are of great significance.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

The Cause of Diffuse Peritonitis Complicating Appendicitis and its Prevention.

A. J. Ochsner (*Am. Jour. Surg. & Gynec.*, vol. 15, no. 6) says:

1. Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis.

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2. This can be prevented by prohibiting the use of every kind of food and cathartics by mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileo-cecal valve, as indicated by the presence of nausea, vomiting, or meteorism.

3. The patient can be supported by the use of concentrated predigested food administered as enemata not oftener than once in four hours, and not in larger quantities than four ounces at a time.

4. This form of treatment,when instituted early, will change the most violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively mild and harmless form.

5. Cases of perforative or gangrenous appendicitis with beginning general peritonitis can usually be carried through the acute attack safely with this method.

6. In all cases of this class gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal.

7. In cases of doubtful diagnosis this form of treatment should always be employed.

8. This treatment will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fecal fistulæ, extensive adhesions, etc.

9. The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack or in case of the formation of a superficial circumscribed abscess.

10. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis.

11. The treatment does not protect the patient against a subsequent attack.

12. It does not contraindicate the removal of a diseased appendix before the septic material has extended beyond this organ.

13. It is indicated in all intra-abdominal conditions in which

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it is desirable to prevent the distribution of septic material by means of peristaltic motion.

14. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Tubal Pregnancy.

J. Goodrich (*St. Paul Med. Jour.*, vol. 4, no. 2) says that if surgical intervention were withheld in all cases of aberrant pregnancies about 5 per cent. would ultimately recover, while the remaining 95 per cent. would succumb to hemorrhage or sepsis. In the hands of a skilled surgeon the mortality is less than 1 per cent.

Operative procedure for relief of the various forms of extra-uterine pregnancy must vary according to the conditions present and may be briefly summarized as follows:

1. Hematoceles, whether intra-ligamentous or peritubal which point in the cul-de-sac of Douglas are often best relieved by a posterior colpotomy with drainage.

2. Hematoceles which point in the vagina anterior to the cervix may be relieved by an anterior colpotomy with drainage. This is true whether intra-ligamentous or peritubal.

3. According to J. W. Taylor all cases of rupture accompanied by diffuse hemorrhage should be subjected to laparotomy.

4. Cases of unruptured tubal pregnancy seen before the third month may likewise be relieved by a posterior colpotomy.

5. Hematoceles which extend high in the abdominal cavity should be treated by celiotomy and, if necessary, vaginal drainage.

6. In cases of tubo-abdominal or ovarian pregnancy beyond the third or fourth month an abdominal section is advisable.

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7. Cases of infected hematocele which are accessible by either the anterior or posterior portion of the vaginal vault should be relieved by a kolpoceliotomy unless there be evidences of active hemorrhage when the combined method would probably be more expedient.

8. Unruptured ectopic sacs which have become infected are more safely dealt with through the vaginal route if the pregnancy has not advanced beyond the fourth month, in which case the combined method will probably give the more gratifying results.

Tuberculosis of Peritoneum.

W. Webb (*Amer. Surg. & Gyne.*, vol. 15, no. 4) says:

1. Tubercular peritonitis is a surgical disease, and should be treated surgically, and not medically, for the simple reason that when treated medically patients die, but when treated surgically a cure is effected in a large proportion of cases, and a marked improvement follows in all.

2. The proper treatment is abdominal section rapidly and carefully performed.

3. Danger from operation is very slight, the mortality being less than 3 per cent.

4. Of the many theories advanced to account for the cure in these cases, the antitoxin theory of Gatti seems to be the most rational. It is not unlikely, however, that the good results attained are due to a combination of several of the various causes assigned.

5. Sepsis is not apt to occur on account of the pathological changes that have taken place in the peritoneum.

6. Tuberculous infection of the wound does not occur.

7. Antiseptics are useless, and drainage should not be employed if it can be avoided, as it is apt to leave a permanent fistula.

Most of the deaths after the operation have been due to a general tuberculosis or tuberculosis of some other organ.

9. The successful treatment of this disease depends upon the diagnostic ability, good judgment, technic and skill of the man behind the knife.

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Memphis Medical Monthly

Memphis Medical Monthly, established as the *Mississippi Valley Medical Monthly*, 1880
Memphis Lancet, established 1898.

LYCEUM BUILDING, MEMPHIS, TENN.

Subscription Per Annum, One Dollar in Advance.

Official Organ of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis Medical Society, and Yazoo Delta Medical Association.

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THE MEMPHIS MEETING OF THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

THE sixty-ninth annual meeting of the State Medical Society, which will be held in Memphis on April 8, 9 and 10, promises to be the most important meeting that this organization has held in a number of years. It has been several years since Memphis has entertained the State Society, and we look to considerable interest being manifested in this meeting by local physicians and members of the profession throughout the Western Division of the State. On this occasion the following amendments to the constitution will come up for final action:

1. "The State Society to be known as the home or parent society, with three branch societies, to be designated the East, Middle and West Tennessee branches of the State Medical Society.

"The parent society to meet annually in Nashville on the second Tuesday in April.

"The branch societies annually in September, October or November at such places as may be elected.

"The membership fee and annual dues to be $3, $2 of which shall belong to the parent society and $1 to the branch society. (See Transactions, pp. 22, 23 and 24.)

2. "To establish a journal to be known as *Tennessee Medical Journal*, which shall be published monthly in the city of Nashville, the proceedings and all papers of the branch societies as well as the parent society to be published in the *Journal*.

"Publication of the Transactions in book form to be suspended."

Considering the proposed amendments, each for its own claims for adoption, we regard the scheme to organize the society into a parent society, with three branch societies,

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as a plan that has many theoretical and practical advantages, but it would almost necessarily require that several existing district organizations, for instance, the West Tennessee Medical and Surgical Association, be discontinued, for it would hardly be reasonable to expect the physicians of the various sections to lend sufficient aid and recognition to maintain more than one organization with practically the same scope. Such organizations as the one mentioned have usually found a warm spot in the hearts of their various members, and serve a useful purpose, and we believe that they would not surrender their identity without first making a strong effort to maintain their organization and individuality.

The second clause of the first amendment has always been warmly advocated by us, for we think that a State Medical Society should hold its annual meetings at the State capital. The expediency of this is emphasized in the fact that the meetings at the State capitals are invariably the best attended and most interesting that are held. Still, a strong fight will be made against the adoption of this clause of the amendment.

To take up the second amendment, we would first like to go on record as stating that in this matter we have absolutely no ax to grind, for the MONTHLY has never depended upon the State Society to any considerable extent for contributions to its original pages, nor would its subscription list be materially decreased were it to lose every subscriber thereon who is a member of the State Society, but to us it seems that this proposition to establish a medical journal, to be known as the *Tennessee Medical Journal*, is the most absurd scheme that it has ever been proposed to perpetrate upon the society. In the first place, no medical journal can be a really successful venture without it is enabled to secure a certain amount of advertising matter. This will be found very difficult to do with such a journal, for the subscription list will unquestionably be almost wholly confined to members of the society, since the journal will be of entirely too local a nature to extend its circulation very much beyond the confines of the State. Further, we are very familiar with the cost of running a medical journal, and unless printing is obtained much more cheaply in Nashville than in Mem-

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phis, there will be some financial difficulties to report at the expiration of the first twelve months' experience with this journalistic bark. Looking at this matter from another standpoint, there are very few men who take the trouble to prepare a creditable paper who would be willing to have it buried in a publication that has a circulation of three or four hundred subscribers. An author desires that the fruit of his pen shall reach an extensive circle of readers, and the claim for such attention is perfectly legitimate. We are confident that the adoption of this plan of publishing papers read before the society will result in the loss of some of the best contributors to the annual program. The publication of Transactions is a good and permanent method for the preservation of papers, but society members should be permitted to first publish their papers in a journal of their election (which the Tennessee State Medical Society now does), or else one that has not merely a limited and local circulation.

This scheme of publishing a State Society journal has been tried many times before without success. Mississippi and Arkansas have each made an unsuccessful venture. There are a few other States that are publishing society journals, but these, almost to a unit, are poor productions from every standpoint.

Let us continue the publication of our Transactions, but don't, gentlemen, commit the society to a venture that savors so strongly of turning the grindstone for some who have the editorial bee buzzing under their bonnets.

THE BARRING OF TUBERCULOUS IMMIGRANTS.

CONSIDERABLE discussion has been evoked by the action of the Treasury Department in refusing admission to consumptive immigrants, tuberculosis being classed by the department under the heading of communicable diseases. Many claim, and we find to our regret that a number of these are physicians, that this step on the part of the Government is uncalled for and without the basis of scientific certainty as to the contagiousness of this disease. Indeed, the New York Academy of Medicine has recently adopted a resolution denouncing this ruling of the Treasury Department.

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While the course of the Treasury Department may be construed by some as inhumane, we can not see why the victims of tuberculosis should not be excluded as well as those of favus and other communicable diseases, which cause the rejection of a number of immigrants to this country. It is true that the degree of contagiousness of tuberculosis is still debatable, but sufficient evidence has been adduced to prove that it is at times transmitted from man to man through the medium of the air and other routes of conduction.

The consumptive immigrant is almost invariably an individual in reduced circumstances and is incompetent to earn his own living on account of his physical condition. These diseased persons frequently become a charge upon the hands of the community or State, and prior to that they customarily live in surroundings so squalid, and are usually so careless as to habits, that they necessarily become foci for the further propagation and spreading of tubercle bacilli. They are undeniably a source of expense to the country, instead of being producers, and unquestionably must be more or less inimical to the health of other individuals with whom they come in contact.

From a sentimental standpoint it does look a little hard that the father or mother or sister or brother should be refused permission to join their relatives in this country, which they have come to look upon as a haven of independence and physical health, but while this may concern a limited circle, the old law of the greatest good to the greatest number recurs here as in similar conditions, and it certainly seems unfair that this country, which already carries a heavy burden of parasites who have come to us from other lands, should be forced to assume other charges who, while they may be objects of pity, can be of no value to the community, but must always remain a source of menace. We are as yet too uncertain of our ability to cure tuberculosis to welcome these prospective patients.

Dr. Leonidas H. Laidley has been appointed to the important post of medical director of the Louisiana Purchase Exposition.

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EDITOR'S NOTES.

THE WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION will hold its seventh annual meeting in Chicago on April 10, 11, 12 prox. An interesting program is promised.

THE MEMPHIS TRAINING SCHOOL FOR NURSES OF THE CITY HOSPITAL held its annual commencement exercises on Friday evening, February 14, at the hospital. Three nurses were graduated.

THE MEMPHIS MEDICAL SOCIETY enjoyed a delightful smoker at the Peabody Hotel on the evening of January 31st. There were between sixty and seventy members of the Society present, and the occasion was one to which all who attended will look back with many pleasant recollections.

THE APRIL ISSUE OF THE MONTHLY will be almost entirely devoted to the publication of papers discussing the continued types of fever more or less widely prevalent in the South. There will be articles by Drs. W. A. Evans, of Chicago, J. B. McElroy, of Stovall, Miss., H. L. Sutherland, of Rosedale, Miss., Wm. Krauss, of Memphis, and others. This issue will be of peculiar interest to physicians of the Delta, and the issue alone promises to be worth more to practitioners than the cost of a year's subscription to the foremost medical journal in the Mississippi Valley.

THE FARBENFABRIKEN OF ELBERFELD COMPANY has requested us to inform its readers that they have recently ferreted out and exposed a gang of drug counterfeiters, who have been selling under false labels to druggists, imitations of several of their preparations, and that quite a quantity of these spurious products has been placed on the market. Where phenacetin, sulfonal, or trional are indicated, every physician recognizes the imperative necessity for securing a pure article, therefore they should exercise great care in seeing that their patients obtain what is prescribed for them.

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SOCIETY PROCEEDINGS.

MEMPHIS MEDICAL SOCIETY.

Stated meeting February 4, 1902.

The President, Dr. Alfred Moore, in the chair.

Present: Drs. Alfred Moore, Barton, Hall, Black, Rudisill, Andrews, E. M. Peete, McCown, McReynolds, Jelks, Wolff, Porter, Burns, Henning, Krauss, Gardner. Visitor, Dr. Petty.

PROGRAM.

Diagnosis and Treatment of Typhoid Fever—Dr. B. G. Henning. (See p. 133). To open discussion—Dr. Frank A. Jones.

Report of Case of Abscess of Brain—Operation—Recovery—Dr. M. Goltman. To open discussion—Dr. J. H. Venn.

The other members on program being absent, the entire evening was spent in the discussion of Dr. Henning's paper. In Dr. Frank Jones' absence Dr. Burns opened the discussion. He first complimented Dr. Henning's able paper. He said that he had had very little experience with typhoid fever; that he had seen while practicing in Arkansas eight thousand cases of malarial fever and only two of typhoid; these were imported. Said he did not know whether this was due to the atmospheric condition or whether the malarial germ was antagonistic to the typhoid; said the malarial and typhoid germs are rarely found in the same patient at the same time. Thought all cases of malarial fever would respond to quinin. He thought Hare was wrong in saying that headache did not occur until fourth day in malarial fever—it was always present. Thought Widal's reaction would aid in diagnosis—would give negative reaction in malarial fever. Intestinal antiseptic would make patient more comfortable. In 20 to 30 per cent. of patients who had had typhoid, they show typhoid bacilli in the urine for ten years, and patients should be careful to disinfect the urine to protect others. Thermol was a safe antipyretic, and relieved pain. Was in favor of solid food in protracted cases.

Dr. Krauss thought Dr. Henning's paper perfect. Typhoid and malarial fever do exist some time in the same patient at the same time. Widal's reaction is not perfect. Does not think quinin will cure all cases of malarial fever. Thought that in some cases of post malaria or acute cachexia, mercury better than quinin. Said we do have in Memphis continued malarial fevers.

Dr. Black thought we had many cases of true typhoid during past fall. Said he saw many cases which showed Widal's

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reaction on fifth day; thought some of these cases had no eruption; saw one case in which temperature was 106°F., and the patient recovered, while all authorities teach when temperature goes so high it is always fatal. Thought thermol best thing to reduce temperature.

Dr. Andrews said, after reading and hearing the best men, he thought much was to be learned about Southern fever yet. Had more confidence in Southern men's opinions, such as Dr. McElroy, than in library writers.

Dr. Gardner said he was called to Mississippi last summer to see his mother who had typhoid fever. Her temperature was reduced by quinin. Ten days after returning to Memphis he developed typhoid himself, while no other members of his family who were with his mother constantly developed the disease. Did not know whether he contracted it from his mother, or whether being in same locality where she contracted it, he contracted it from some source from which his mother contracted it, or whether he contracted it in Memphis after leaving Mississippi.

Dr. Peete gave history of a case of continued fever which recently occurred in his practice; was not positive as to diagnosis; had many symptoms of typhoid, but no eruption.

Dr. McCown said he had enjoyed Dr. Henning's most excellent paper. Thought Dr. Burns should be more specific in making differential diagnosis of typhoid and malarial fever. Said there were three ways of making diagnosis—first, clinical; second, Widal's reaction; third, deadhouse.

Dr. Wolff said he was much pleased with Dr. Henning's paper. Said that he saw eleven cases of malarial fever recently in city hospital, and four of them showed Widal's reaction. Thought thermol a good antipyretic.

Dr. Jelks thought intestinal antiseptics good in the treatment of typhoid; thought guiaicol and sulpho-carbolate of zinc the best. Believed in using much water by mouth and rectum, and would reduce temperature and dilute ptomains. Would also give solid food in protracted cases; such foods as beef and egg albumen; albumen was of special value as the temperature burned up the albumen in the tissues.

Dr. Moore said he could add nothing to Dr. Henning's excellent paper, and would not attempt to discuss it, but desired to thank him for the paper.

Dr. Henning said in conclusion that there was an antagonism in the malarial fever for typhoid fever, but that it was possible for them to co-exist in the same patient. Said the typhoid which we had three years ago was not the same as

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we have today; nor was the malarial fever we have here today as severe or malignant as it was three years ago. Said since the city had been sewered and has better water supply, we have less malaria and more typhoid. Thought pain in back of head an almost pathognomonic symptom of malarial fever. Thought longer the fever lasts the more apt it is to show Widal's reaction. While he thought intestinal antiseptics of no value, thought castor oil good for catarrhal condition of the bowels.

Dr. Krauss told of an article which he has recently read; where the author said that darkness had some effect upon the malarial germ; the author said the patient never had a malarial chill at night; the negro did not have malaria because his black skin obscures the light from his blood.

Dr. Andrews presented the following names of candidates who were elected to membership: Drs. L. M. Van Meter, W. S. A. Castles, H. Lee Farris.

Dr. Barton read the names of the following applicants for membership: Drs. W. M. Voorhees, W. C. Dukes, S. S. Edwards, R. G. Henderson and J. A. VanHorn.

Dr. Ellett's report of entertainment committee read by the Secretary; was adopted, and the balance of $7 is to be used for the expenses of the Society.

Drs. Krauss, Burns and Henning were appointed as a committee to see about the change of the name of the Society to the Shelby County Medical Society, as suggested by the American Medical Association.

BOOK REVIEWS.

DIET LISTS AND SICK ROOM DIETARY. A book of detachable diet lists for Albuminuria, Anemia, Debility, Constipation, Diabetes, Diarrhea, Dyspepsia, Fever, Gout or Uric Acid Diathesis, Obesity, Tuberculosis and a sick room dietary. Compiled by Jerome B. Thomas, Jr., A.B., M.D. Second edition, revised. Philadelphia and London. 1902. W. B. Saunders & Co. Cloth, $1.25 net.

It is an acknowledged fact that a great deal of the success achieved by the late Sir Andrew Clark was due to the care and preciseness with which he prescribed a diet for his patients. Today every practitioner fully appreciates the vital importance of a strict and carefully selected dietary; it is as essential to the favorable termination of the case as his prescribed medicines.

The busy practitioner has but little time to write out systems of diet or to describe the preparation of his favorite foods. In this portable form there is offered him a set of ten lists (compiled from standard works on dietetics) which include all the common pathologic conditions in the treatment of which diet plays so important a part. The lists are numbered, the key to the numbers being reserved for the physician. All he has to do is to tear out a perforated list, check off the foods he desires to prescribe, and hand the list to the nurse or one in attendance, the stub affording a means of recording the date and diet chosen.

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A very valuable feature is the arrangement of the lists so that undesirable foods may be erased, blanks and space being purposely reserved for the insertion of special orders. On the reverse side are stated those foods permissible and those to be avoided, with general dietary directions for that particular disease.

INTERNATIONAL CLINICS. A quarterly of clinical lectures and especially prepared articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., Philadelphia, U. S. A., with the collaboration of John B. Murphy, M.D., of Chicago, Alexander D. Blackader, M.D., of Montreal, H. C. Wood, M.D., of Philadelphia, T. M. Rotch, M.D., of Boston, E. Landolt, M.D., of Paris, Thomas G. Morton, M.D., Chas. H. Reed, M.D. of Philadelphia, J. W. Ballantyne, M.D., of Edinburgh, and John Harold, M.D., of London, with regular correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume IV. Eleventh Series, 1902. Price, $2.00.

This latest volume of this very practical series of Clinical Lectures is one of the most interesting that we have ever received. It contains articles on Therapeutics, Medicine, Neurology, Surgery, Pediatrics, Dermatology, etc., by some of the best known authors and teachers in the profession, among whom are Norman Bridge, Chas. H. Burnett, John B. Deaver, Wm. S. Gottheil, J. P. Crozer Griffith, A. Jacobi, G. Frank Lydston, John S. Musser, Frederick A. Packard, Nicholas Senn, Alfred Stengle, John Madison Taylor and James J. Walsh.

The volume contains 107 illustrations, 34 special formulæ, a table on infant feeding from one week to three years, and a great variety of other information valuable to the practitioner.

The International Clinics is one of the most valuable of the publications appealing peculiarly to the general practitioner, and its practical clinical articles make it a valuable working library.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes on the year's progress in medicine and surgery, issued monthly. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III, the Eye, Ear, Nose and Throat, edited by Casey A. Wood, C.M., M.D., Albert H. Andrews, M.D., T. Melville Hardy, A.M., M.D. December, 1901. Price of this volume, $1 50. Price of the series, $7.50.

We are, in this book, presented with the third volume of the system of Year-Books that is being published by The Year-Book Publishers.

In this volume we have a comprehensive summary of the progress of the past year in the study of the diseases of the eye, ear, nose and throat. The subject matter comprises a carefully selected review of all noteworthy contributions made to the literature during twelve months, and should prove a valuable exposition of all up-to-date medicine in these departments.

ANNOUNCEMENT.

Jonathan Hutchinson, F.R.S., General Secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the Society, to announce the publication of "An Atlas of Clinical Medicine, Surgery and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the Society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs and translations of works which could not be otherwise issued. The list of publications numbers upward of 170 volumes of the greatest scientific value. An effort is now being made to increase the membership, in order to extend its work.

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MEMPHIS
MEDICAL MONTHLY.

VOL. XXII MEMPHIS, APRIL, 1902. No. 4

ORIGINAL ARTICLES.

AMEBIC DYSENTERY,

With Report of a Case Complicated with Malaria.*

BY J. B. McELROY, M.D.
STOVALL, MISS.

SINCE the recognition of dysentery as an independent disease by Hippocrates about four centuries before the Christian era, the attempt to establish a common etiological factor for all cases of dysentery has thus far failed. This fact has naturally given us a very varied classification by different medical writers, and has tended to emphasize the idea expressed by Manson[1] that "dysentery indicates merely a group of symptoms characteristic of inflammation of the colon." The only form which has an etiologic basis for its classification is that to which I call your attention today.

A little more than twenty-five years ago, Lösch was the first to regard the protozoon to which he gave the name *ameba coli* as the cause of a case of dysentery which occurred in the clinic of Prof. Eichwald in St. Petersburg, in 1873.

Ten years later Kartulis made the next most important contribution to the literature of this subject from his observations upon cases of dysentery occurring in Egypt and Greece. Kartulis claimed to have cultivated the ameba in alkaline

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 20, 1901

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straw infusion, and in one instance to have obtained a pure culture. The failure of all subsequent attempts renders it probable that this, like our other protozoon acquaintances, has resisted the fostering care of the bacteriologist.

Osler, in 1890, was the first to find the ameba in America, and it is largely due to the studies of cases occurring in his clinic by Councilman and Lafleur in 1890 and 1891 that amebic dysentery has come to be regarded as a distinct disease etiologically, anatomically and clinically.

Since these observations, "amebic" and "tropical" dysentery have come to be used as synonymous terms, and are so regarded by some of the latest textbooks. In the light of Shiga's and Flexner's observations on epidemic and tropical dysentery, this view will probably have to be modified. Flexner[2] isolated a bacillus which occurred constantly in cases of acute dysentery in the Philippines; which was not found in healthy persons, or persons suffering with other diseases; which proved pathogenic; and which was agglutinated by the blood serum of persons suffering with acute dysentery. These observations indicate that there is a form of dysentery due to this organism—i. e., to anyone who does not adopt that "hard conservatism which refuses to see what it has never yet seen, and so never learns anything new." Flexner did not find the ameba coli in these cases. Lieutenant Strong, following up Flexner's work in the Philippines, found Flexner's bacillus in fourteen cases of acute dysentery in which the ameba were absent, but found the ameba in all cases of dysentery with certain anatomical lesions.

The ameba coli. The description of the ameba which more nearly conforms to what I have seen is that of Craig.[3] He says "the ameba is a round, oval or irregular protoplasmic body, varying in size; motile or immotile, the motility being ameboid in character, and when present being generally moderate; pale or faint green in color; refractive, with sharply-cut border, and containing a circular or oval, lighter-colored space known as a vacuole. In some a darker-colored nucleus can be distinguished, and in immotile organisms a darker-colored central or eccentric portion, containing the vacuoles and comprising the greater part of the parasite known as the

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endoplasm, can be seen, surrounded by a narrow or much smaller layer, lighter in color and clear, known as the ectoplasm."

For purposes of diagnosis, it is much preferable to examine a fresh stool. The feces are collected in a warm bed pan or chamber without the mixture of the urine which readily kills the amebæ. A portion of the stool, preferably from the bloody mucus, should be taken up with the platinum loop or glass rod and placed upon a warm slide. This being covered with a warm cover glass with gentle pressure and placed in a small slide-box or wrapped in paper, is placed in the inside vest pocket, and may be carried for some time until the office is reached, where the preparation may be examined with a one-sixth inch objective.

The movements of the amebæ will be stimulated by gently heating the slide over an alcohol lamp. The ameboid movement is characteristic. Large epitheloid cells which are found in the feces might be readily taken for the amebæ when motionless; but the amebæ are distinguished from these by their greater refraction and pale green shimmer.

The *cercomonas intestinalis* has somewhat the same refraction and green appearance of the ameba; but these, being flagellated organisms, are easily distinguished. The ameba once seen and recognized, it is not difficult to detect it when present in the stools.

Smears for staining may be collected much in the same way in which blood smears are obtained. These are fixed in absolute alcohol and ether. Craig states that the only stains which he has found worthy of use are methylene blue, carbol fuchsin and thionin. The differential stain devised by Mallory, which is so useful for staining the amebæ in the tissues, is not successful with the feces.

The staining reactions of the ameba are very similar to those of the malarial parasite. Recently I have used with a great deal of satisfaction W. B. Leishman's[4] ready method for producing the Romanowsky stain.

The ameba varies somewhat in its staining reactions at different stages of its growth. By the method I refer to, the body of the full-grown ameba takes the blue stain, the chro-

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matic portion of the nucleus the ruby red, and the oval spots which are seen in the ameba, and as Craig suggests, from analogy with the malarial parasites are spores, take the red stain.

Morbid anatomy. Councilman and Lafleur[5] say that the disease is characterized "by the production of ulcers in the colon which generally differ from those found in other forms of dysentery. The ulceration is produced by infiltration of the submucous tissue and necrosis of the overlying mucous membrane, the ulcer in consequence having the undermined form. Frequently in addition to the ulcers there is infiltration of the submucous tissue without ulceration. In all of these lesions, unless complicated by the action of bacteria, there is absence of the products of purulent inflammation."

Last year Diamond[6] reported the findings in a case in which these characteristic lesions were not found, "the changes being largely confined to the mucosa and muscularis mucosæ, and deeper ulceration being apparently secondary." It is probable that these changes were due to the influence of bacteria associated with the ameba.

Councilman and Lafleur also state that "abscess of the liver with or without involvement of the lung is a frequent complication, much more so than in any other form of dysentery. The involvement of the lung may early follow the hepatic involvement, and be detected by the occurrence of amebæ in the sputum before there is evidence of liver abscess. These abscesses differ in their anatomical features from those produced by other causes. The chief difference is found in the absence of purulent inflammation, the abscess being caused by necrosis, softening and liquefaction of the tissue. In these abscesses the amebæ are not associated with other organisms."

Clinical History. Usually these cases come to us with a history of alternating diarrhea and dysentery, with periods of intermission and exacerbation, and of loss of appetite, flesh and strength. It is often stated that "I have tried everything and nothing seems to give relief." And there is usually not much relief until the nature of the disease is determined or suspected, and the proper treatment instituted.

Sometimes the attack is ushered in by a grave gangrenous dysentery, such as I report here:

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C. S., male, black, 24 years of age, called me to attend him at his home, Stovall, Miss., September 26, 1901. He had lived at Stovall five or six years, engaged as a farm laborer. He had bloody flux last spring, which was of several days duration. Since that time he has been very well, except occasionally he had a griping in the stomach, associated with loose bowels. For several days prior to September 26 he had been feeling unwell, complaining of bowel trouble. On the 25th he had fever, nausea, vomiting of bile and blood, intense "misery" and "straining on the bowels," with frequent passages of "bloody corruption."

Physical examination: The patient was not a very strong-looking man. The skin was dry and warm, the conjunctivæ slightly yellow; the tongue was dry and coated; the mucous membranes anemic; temperature 100°F., pulse 84, of rather low tension. The lungs and heart were normal. The abdomen was extremely tender, especially over the hypogastrium, and tympanitic. The liver nor spleen was apparently enlarged. The stools were very frequent, watery, dark, containing much shreddy, necrotic material, mucus and blood, and of a very offensive odor. All stools were attended with great pain and tenesmus. The bladder was slightly distended, there having been retention of urine for twenty-four hours. The blood contained estivo-autumnal malarial parasites—intracellular forms. The temperature rose to 103⅖°F. in the afternoon.

27th. During the night there were frequent stools, containing bile, mucus and blood; temperature 98⅖°F., which reached 102°F. in the afternoon; pulse 88; abdomen tender and tympanitic; malarial parasites in the blood.

28th. The stools were still quite frequent, attended with pain and tenesmus; no parasites in the blood. After this date the case ran an afebrile course.

29th. The stools were more than twenty in the last twenty-four hours. There were rather free hemorrhages from the bowels—the passage of large clots of blood. The tympany was so extreme that I feared there might be perforation. For the first time the stools were examined microscopically; ameba coli, blood, and numerous bacteria were present. After this date there was not much tenesmus nor tympany.

After October 2, the eighth day of the disease, the stools were less frequent, varying from six to eighteen in the twenty-four hours. There were long intervals in which there was no blood, the stools then consisting of a dark watery fluid, with here and there flakes of bloody mucus. The amebæ were found at varying intervals after the 29th. The patient became

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very much emaciated, and besides his other troubles, was harassed by a most distressing hiccough, which could be relieved for only short intervals.

On the night of October 7th, the fourteenth day of the illness, the patient died, apparently from the "initial gravity of the intestinal lesion and exhaustion."

I regret very much that an autopsy was denied, notwithstanding most earnest solicitation for one.

Complications. As stated before, abscess of the liver is a very frequent complication in these cases, and when present the usual clinical history of abscess of the liver—pain, fever, sweats—and when the abscess ruptures into a bronchus the characteristic sputa containing the amebæ is added. The liver in this case did not seem to be affected.

Peritonitis, with or without perforation, sometimes occurs.

Hemorrhage from the bowels not infrequently occurs. In this case there were two quite large hemorrhages on the fifth and sixth days of the disease.

Malaria, while not strictly a complication of the disease, is quite frequently associated with it. Thayer[7] states that nearly 12 per cent. of the cases of amebic dysentery treated in the Johns Hopkins Hospital have suffered simultaneously with malarial infection.

This session being one mainly devoted to the discussion of malaria, I will presume to ask your pardon for referring to a question not strictly in keeping with my subject, viz., the relation of malaria to dysentery in general.

All are agreed that the parasites in the blood and amebæ in the stools are proof that there is a double infection.

It is also known that there are many points of similarity in the epidemiology and etiology of malaria and dysentery.

Many high in authority are of the opinion that the malarial parasites or their toxic products may be directly responsible for dysenteric symptoms. In fact, almost all authors, following Torti's classification of the pernicious malarial fevers, describe a dysenteric form. Colin is an exception to these, regarding the two as distinct diseases.

Manson[8] says "another form of pernicious attack is characterized by the sudden appearance of dysenteric symptoms."

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Thayer[9] says "the occurrence of diarrhea or dysentery may or may not depend upon the action of malarial parasites or their toxic products."

Craig[10] says: "I am satisfied that a considerable portion of dysenteric cases occurring in tropical countries are due to malaria infection, basing his conviction upon the result of blood examinations of soldiers returning from the tropics." He also says "a large number of cases, diagnosed as dysentery, showed parasites in the blood, and the administration of quinin almost invariably resulted in the disappearance of the dysenteric symptoms."

With our imperfect knowledge of the causative agents of dysentery, it is manifestly a difficult matter to decide whether a patient, presenting dysenteric symptoms with malarial parasites in the blood, is suffering from infection with one or two diseases. The fact that in such a case the dysenteric symptoms disappear upon the exhibition of quinin, is strong presumptive proof that the patient is suffering from a malarial infection only.

Flexner's work upon dysentery furnishes hope that we may be better able to more accurately determine the nature of these cases by the agglutination test. Here I desire to emphasize a statement made by Cabot:[11] "It is a great pity that the general practitioner does not more generally avail himself of this means of diagnosis, since the test is an exceedingly simple one, easily learned and quickly performed, and needing no extra apparatus provided a good microscope is at hand."

As far as my experience goes with malaria and dysentery, I may say that I do not think I have ever seen a case of pernicious malaria characterized by dysenteric symptoms. I have frequently seen cases of dysentery with malarial parasites in the blood in which the exhibition of quinin improved the condition of the patient, insomuch as it removed the malarial phase of the case. I do not know that I have seen the dysenteric symptoms relieved by quinin. Notwithstanding this may sometimes happen, I think the term "malarial dysentery" is a bad and misleading one, and we would be scarcely less justifiable in using it than we are in using the term "typho-malarial fever."

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To return to amebic dysentery, the diagnosis of the disease consists in the detection of the ameba coli in the stools; and I most strenuously emphasize the importance of the microscopical examination of the stools of all dysenteric patients, especially of such as resist the treatment of dysentery ordinarily.

Prognosis. The mortality in this disease is much higher than in catarrhal dysentery, and there is a great tendency to chronicity.

Treatment. The treatment consists in the confinement of the patient to bed, liquid diet, and to the rectal injection of quinin in normal salt solution in strength 1-5000 to 1-1000 three or four times a day, or the rectal injection of hydrogen dioxid, 25 per cent. solution, or of permanganate of potash, 15 grains to the pint of warm water, two or three times a day. All of these destroy the ameba in the bowels.

The special symptoms, complications and associated diseases call for their appropriate treatment.

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6 Philadelphia Medical Journal, Vol. V, p. 818.
7 Lectures on the Malarial Fevers—Thayer--p. 92.
8 Tropical Diseases—Manson.
9 Loc. cit.
10 The Remittent Malarial Fevers—Craig.
11 Serum Diagnosis—Cabot.

APRIL.—

With a whistling wind, like the music of flutes,
While the thunder attendant drums,
And the shy sun smiles through its rainbow veil,
My lady of April comes.

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FURTHER CONSIDERATIONS IN THE PATHOLOGY OF MALARIAL METHEMOGLOBINURIA*

BY WM. KRAUSS, M.D.
MEMPHIS.

THIS short sketch is intended merely to cover such points as have appeared from time to time as discussions, editorials and informal addresses since the last complete paper written jointly by Dr. Goltman and myself.[1] Although this paper was written in the summer of '97 and comprised labors in part two years old, it was not published until then because it was wanted as the special article for the meeting of the Tri-State Association that year. Like all joint papers, it had the demerit of being the compromise of the opinions of two men, and later investigation, as well as the classic publications of Bastianelli, the Plehn brothers and many other writers, has necessitated a revision of the opinions then held.

1. The tertian parasite was said to be the etiologic factor in most cases. In a report made by the writer, comprising the collected cases of seventeen observers in the vicinity of Memphis,[2] and including reports of 208 cases, the answers for 188 cases were, "intermittent, becoming remittent just before the attack." At the time we did not know of an intermittent estivo-autumnal fever, and as none of the observers had made blood examinations, we took it for granted that they were dealing with the tertian parasite, and it was so incorporated in the report. Half of the cases observed personally since then were consequent upon the estivo-autumnal parasite; most of them were precipitated upon the sporulation of a group of plasmodia, which afterward rapidly disappeared. The last series of 16 cases seen by the author have as blood history, 5, none; 7, intermittent fever, terminating in remittent; 3, examined before attack and estivos found; 1, hematuric chill was first sign of illness. After they were seen by me, 4 were too far along for blood examination; 8, blood examination on first day; 3 had first blood examination

* Read by title before Tri-State Medical Association (Miss. Ark. & Tenn.), Memphis, November 20, 1901.

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after third day of hematuria and no plasmodia were found, and of 1 there is no record. Of the 8 seen by me on first day, 7 had sporulating parasites, the other had pigmented leukocytes and inclusions in these which might have been plasmodia. In my earlier work I believed the hematokonia to be embryones and described them as such. Since employing the polychrome methods I have found that these bodies are generally neutrophile, whilst the plasmodia are slightly basophile. The estivo-autumnal parasite is therefore not a "plus infection." In all but 2 the parasites disappeared during attack.

2. The index to the administration or non-administration of quinin, instead of being as stated, is simply this: so long as sporulating parasites are in the peripheral blood and there is no hematuria, *push it to the limit.* If oral administration is not practicable, give the neutral chlorid in very dilute solution with an antitoxin syringe; no slough follows this mode of administration. Some fear to provoke an attack, but if the quinin provokes it, it is more certain to supervene without it.

3. I wish to reiterate and emphasize the following: "We are therefore forced to the conclusion that, hematuria once begun, quinin has no place in its therapy. This, however, has no reference to its exhibition in tonic doses in the post-hematuric period." In this connection it is proper to mention the treatment of 2 of the last 16 cases, in which the plasmodia persisted throughout the attack and fever continued in an increasingly remittent manner. In the first one I feared to give quinin in the exhausted state of the patient, but finally gave, with the consent of the consultant, half-grain doses of quinin every two hours without provoking a chill, then increased to 5-grain doses and had the satisfaction of seeing the fever leave definitely. The other patient would react to every form of the drug, even the elixir of cinchona made from the bark, always with a slight rigor and a tinge in the urine. Even methylene blue jaundiced her. I therefore decided that any anti-malarial treatment would injure such a patient, disregarded the plasmodia and fed her on bone marrow and pepto-mangan (Gude). She was an inmate of St.

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Joseph's Hospital; there were no other malarial patients in the ward at the time, and as it was in December, I decided to let her immunize herself, and this she did.

4. Quinin hemoglobinuria. This was described as a separate condition from the "malarial", and is still so considered by many writers. At present I do not think so. In a discussion before the medical section of the A. M. A. at the Atlantic City meeting[3] I stated that I believed that there was a symbiosis between the plasmodia and the patient, which, if disturbed, either by an unusual invasion or voluminous sporulation on the one hand, or anti-malarial treatment on the other, precipitated a hemolysis. The conditions provoking a paroxysm are divisible into two opposing groups—those favoring the patient and those favoring the plasmodia; and since diametrically opposed conditions appear to produce the same result, we have only two logical conclusions: 1, a reversible enzyme action; 2, a symbiosis, the disturbance of which produces a hemolysis. Marchiafava and Bignami[4] call attention to the original work of Bordet on hemolysis which has since been completely exploited, and is now considered to be due to the formation of an anti-alexin which has the property of always dissolving the blood of a species for which the experiment animal has been treated. They conclude as follows:

"This hypothesis would explain the fact that attacks of hemoglobinuria occur only after the malarial infection has lasted a long time; since the assumed alteration in the plasma would require a long time for its production. It would also explain the apparent irregularities and accidental character of the phenomenon, which depends upon the complexity of conditions which are necessary for its production. It further explains the irregularity in the action of quinin and of the existing parasitic invasion; indeed, in the same individual we may have hemoglobinuria with parasites in the blood without the intervention of quinin, hemoglobinuria after the action of quinin, and finally spontaneous hemoglobinuria without the presence of parasites in the blood and without the previous administration of quinin. All this inclines us to assume, as affirmed in the hypothesis, that the action of the parasites or of the quinin possesses a secondary importance in compar-

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ison with some other unknown factor which, according to the theory, is represented by a newly developed property of the plasma. The malarial parasites and the quinin represent only the agent which liberates the hemolytic substance, like the addiment in the experiments of Pfeiffer and Ehrlich; they represent therefore only the occasion of the attack."

Bastianelli's group of conditions necessary to produce an attack are:

1. Pre-existing alteration in the hemopoietic organs.
2. Anemic condition of the blood.
3. Precedence of one or more attacks of malaria.
4. Idiosyncrasy.
5. A provocative agent.

There is nothing in this which contradicts the hemolysin, anti-alexin or reversed enzyme action theory. He mentions three classes of hemoglobinuria: 1. The attack comes on with the sporulation of a group of parasites which continue throughout the attack. 2. Same as the preceding, the plasmodia disappearing during the progress of the disease. 3. Post-malarial. Some writers contend that all cases are post-malarial in effect, i. e., the existing parasites are no factor in the attack. The first cases I have had the opportunity to study were truly post-malarial. I reported such a case before the Tennessee State Medical Society,[5] and in a personal letter from Dr. Osler he congratulated me "on the interesting case of *non-malarial* hemoglobinuria." The reversible enzyme idea would presuppose the existence—very probably in the spleen—of a substance either as a normal enzyme or a "side chain," whose function it is to maintain the corpuscular balance, which when disturbed would precipitate a hemolysis Its effect would necessarily be indirect because the generation of erythrocytes is the result of cellular activity of the erythroblasts.

The effect of quinin on susceptible individuals seems to me to be due entirely to the amount of the hemolytic body stored up. This certainly varies with different individuals. Some set free their storage after a single dose of quinin; subsequent doses can obviously do no further harm. Others eliminate their storage after a few days' duration of the syndrome, and finally, some seem never to lose it, as the one mentioned above,

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in which all treatment had to be suspended. In my experience, the storage seems in most cases to be in direct relation to the disappearance of the parasites; the patients whose urine clears up promptly are not as certainly freed from the infection as those in which there is an excess of this storage, the same case mentioned above being again an exception, but in this case it is likely that the immunizing effect is impaired and they are said to have "chronic" hemoglobinuria. Dr. Brister reported such a case to me.[6]

5. Just how much the liver has to do with this perverted metabolism is not clear, but the previously announced pathology, as far as it has reference to the liver, is clearly erroneous. It is true that the liver makes an incomplete bile, and that there must be resorption into the lymph paths as a result of the increased pressure within the bile channels, but this, if continuous, will simply cause a pressure-injection of the bile canaliculi and focal necroses in the liver. Sections of such livers have been exhibited on this floor. The hemoglobinemia cannot result from this bile resorption, as such is not proved to take place in other obstructive jaundices, and because it clearly antedates this hepatic obstruction. Nor is the hemoglobinemia in the peripheral circulation in some cases very marked. The blood destruction appears to take place in the splanchnic area, certainly in the kidneys, as can be seen from the sections, and very probably also in the spleen. The spleen is disintegrated; no definite picture can be made out; in some it might be called hemorrhagic degeneration; in others there is great round cell infiltration; in all we find very great pigmentation. Of course, some allowance is due to such changes as resulted from the preceding chronic malaria. In the kidneys I have found fine pigment in the glomeruli, in the convoluted tubules, scattered in very fine particles, but in the Bellini tubules it is found in great rodshaped blocks imbedded in the epithelia; as this is not secreting epithelium, the pigment must have been picked up from the lumen of the tubule, which is difficult to understand; degeneration of the convoluted tubules is always the most marked; the limbs of Henle's tubes are in all my cases blocked up with débris having a siderin color, thus showing a mechanical obstruction. Some writers deny this, claiming that suppression is due to

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functional inactivity or degeneration of the convoluted tubules. Very probably all these factors count, as in the series reported[7] we had two cases in which, after complete suppression *for several days*, this was followed by the flow of perfectly clear, colorless urine, of a sp. gr. of 1001–2, leading, however, to a fatal issue inside of a week, indicating a return of perviousness without return of function.

Well-formed blood disks, retaining their color, were found in the lumina of the Henle's tubes in all cases, and also great dilatation of the straight vessels, with here and there interstitial hemorrhage, but in only one was there marked dilatation of the labyrinthine vessels; the congestion is mainly medullary.

None of the patients in the last series of 16 cases having died, no new points as to the post-mortem findings can be offered. The treatment of these cases was based upon the collective findings and the experience of the physicians in the country adjacent to Memphis. The main objects were to sharply eliminate, filling the colon and stomach with water or salt solution, and if not retained after many repetitions, injecting under the skin, or even into the veins, the principal object being to prevent inspissation of the urine in the face of sharp purging and vomiting. The other treatment must be symptomatic. Splendid tranquillizing effect is produced with very small doses of morphin guarded with atropin, and without danger to the kidneys. Strychnin must be freely used, and stimulating diuretics are best entirely avoided. The skin must be kept active with tentative doses of pilocarpin, woollen bed covering and strict avoidance of draughts; in urgent cases the hot pack may be tried, but the experience is that when such dernier measures are called for, there is no hope. If malarial paroxysms persist, quinin may be tried very tentatively and promptly abandoned if the urine reddens or a chill supervenes.

The record of 16 cases without a death is quite a contrast to the previous report of 12 cases with 9 deaths. Most of the first series were seen by the courtesy of the attendants, however, who in some instances were opposed to our suggestions. Any patient whose kidneys become obstructed necessarily

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dies. Quinin therapy is not always fatal, for reasons already stated. Indeed, in one case the continuous use of quinin for three days merely resulted in the practical exsanguination of the patient. When the writer took charge of the case there was no radial pulse and an effort to obtain blood was not made. I think it would have required the severance of the radial artery. Salt solution, bone marrow and pepto-mangan were the only agents used. After suspension of the quinin the urine promptly cleared up, but the patient was unconscious for thirty-six hours. She had also aborted (as pregnant women always do), and her recovery was exceedingly tedious.

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Randolph Building.

THE CONTINUED FEVERS OF THE MISSISSIPPI DELTA.

Report on Observations Made in Forty-six Cases.*

BY H. L. SUTHERLAND, M.D.

ROSEDALE, MISS.

THE opportunity for observing clinical features of disease in a country practice in the Delta, is not at all satisfactory to the physician who takes pleasure in the study of diagnosis. This is more particularly true of about four-fifths of our population who are negroes, and who are, in all respects, very poor subjects for the study of disease. When they are on plantations the distance to be traveled, to say nothing of the item of expense, precludes the possibility of noting temperature changes as accurately as shown in the books.

As to carrying out medical treatment, the giving of baths,

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* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 20, 1901

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nursing and feeding cases of continued fever in the negro, we might as well trust to a kind providence, as *they* generally do, and let nature make its fight against disease, unaided. So we may reasonably expect a much higher death rate than in hospitals, cities and towns, with patients more accessible and more frequently under observation. This being the case, there is lacking that incentive to accuracy of diagnosis and nicety of treatment which we would bestow upon a more intelligent and appreciative class of patients. This is one cause of carelessness in diagnosis and treatment. Another is the habit of considering nearly every fever, nearly every pain, nearly every anemia, as having its *fons et origo* in the malaria which we are presumed to carry in our bodies from one year's end to another, and to treat them with quinin all the year round, with a few doses of calomel to "prepare the system" for it. That there are other diseases in our Delta—the land of the greatest possibilities and greatest future on earth—I will attempt to show in this paper by citing some cases which some of my confrères and I have seen during the past summer.

My work as a physician began in the Delta in 1873, and with the exception of a few years, I have spent my professional life there. Up to about 1890 I refused to concede that we had typhoid fever there which was not imported; but I began about that time to meet with cases of continued fever which were not amenable to quinin, and for which I could find no other cause than malaria, as I supposed, yet running such an uneventful course, and with a mortality so insignificant that I could hardly commit myself to a diagnosis of typhoid fever. Many of my medical brethren, I imagine, were, like myself, inclined to dodge the question and take refuge behind the term typho-malarial and even the lay term or negro term "slow fever." In deference to such physicians I suppose the State Boards of Health of Louisiana and Mississippi still use the term "typho-malarial." From year to year a considerable proportion of these cases of continued fever have corresponded more closely to typical typhoid, and the mortality has measurably increased. That there still is, however, a marked difference between our "swamp typhoid" and the typhoid of our less fortunate brothers in the hills, is stoutly maintained by a vast majority of the phy-

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sicians of the Delta, and some even yet hold that typhoid does not exist at all in their particular localities. Within my experience it appears to me that the type of malarial fever has changed. In the first two decades of my work, pure, simple intermittents were the rule—now they are the exception, estivo-autumnal being the prevalent type. Even as late as 1899 my friend Krauss, of Memphis, held that crescents were not to be found in the territory contiguous to Memphis, and I think he offered reward for any crescents found within one hundred miles of that place.

In 1895 my friend, Dr. W. A. Evans, of Chicago, went through my four convict hospitals in Bolivar county looking for malarial organisms, and, notwithstanding I had many cases then under treatment for forms of malarial fever which were refractory to quinin, he found none.

During the fall of 1900 I had blood examinations made in several cases of continued fever, and the report showed a positive Widal test in some of them, and I determined that, during the present year, I would have blood examinations made in every case of continued fever occurring in my practice which did not yield to quinin, and for which I could find no cause in septic processes; and, as I could not expect to have a sufficent number of such cases in my own practice to prove of much value, I invoked the aid of several friends, all physicians in the Delta, and I take this opportunity of acknowledging my obligations to Drs. Cheek, Alexander, Scudder, Sparkman, McCalip, Mathis, E. H. Martin, C. L. Catchings and Coursen for specimens of blood. In this way I secured specimens of blood from 46 cases of continued fever in which the diagnosis seemed to lie between estivo-autumnal and typhoid fevers. Positive Widal reaction was present in 23 of these cases, and their clinical histories supported this diagnosis except in 3 or 4 cases.

Of 23 cases not giving the Widal reaction, 7 cases gave strong clinical proof of typhoid fever; 11 were undoubtedly malaria; 1 case leukemia; 1 of gastro-intestinal nature; 1 pulmonary phthisis; 1 appendicitis; 1 pelvic inflammation.

Of the 46 cases 5 died; in 4 of which the positive Widal reaction was given. The fifth being a child one month old

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with fever of gastro-intestinal origin. The 7 cases giving clinical history of typhoid added to 23 giving positive Widal, making 30 cases, with 4 deaths, gives a mortality of 13⅓ per cent.

This being a higher mortality than usual, may be explained by stating one was a negro boy who had only one visit from a physician, and one a negro woman, pregnant, and miscarried in the second week of the disease. Of the 30 cases which will be classed as typhoid, only two gave evidence of ulceration of the bowels; only one showed rose spots, this being the only case with this symptom that I have ever seen in the Delta.

My colleague, Dr. Evans, will speak more particularly of those cases giving Widal reaction.

As I stated just now, 11 of the 23 cases not giving the Widal reaction proved to be malaria in some form which succumbed to the administration of quinin; 6 of these were cases in my practice, and the fever in each was cured by quinin before the laboratory report was received, or about four days.

Tuberculosis is quite frequently met with in negro practice, and I imagine I am not the only one who has made the mistake of diagnosing it estivo-autumnal, or typhoid. I had such a specimen examined about two months ago with a negative result; I did not see the patient again until November 10th, when I made a special visit to him to get another specimen of blood for examination, and found he had pulmonary phthisis.

Leukemia may very readily be mistaken for estivo-autumnal or typhoid, and in having a blood specimen examined for these diseases, leukemia was found to cause the continued fever.

There is a generally prevalent opinion among doctors in the Delta that a double infection of typhoid and malaria may exist represented by the term typho-malarial, which in some way renders the typhoid element almost harmless, but this theory is contradicted by microscopical findings. Pothier has found them coëxistent only twelve times in over 3000 examinations. Osler has not found them together. Dr. William Britt Burns, of Memphis, has not found them associated in over 8000 examinations, judged by the quinin test. We of the Delta, however, do seem to enjoy a partial immunity from typhoid fever.

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Following the suggestion of Class as to immunity from zymotic diseases, it may be that malarial fever has left in our blood an antitoxin which confers partial immunity against, not only typhoid, but other diseases, one of which may be diphtheria, as this disease is rarely seen in the Delta. It is a well-established fact now that all pernicious forms of malaria are caused by the estivo-autumnal parasites, and this is a strong argument against the claim that our "swamp typhoid" or typho-malarial or "slow fever" is a malarial fever; for these cases never assume a pernicious form even when left untreated for weeks. I doubt if any physician in the Delta has ever seen a case of either of these fevers terminate in malarial hematuria, whether taking quinin or not, which would likely be the case, if due to estivo-autumnal malaria.

The diagnosis between our continued fevers does not present many difficulties except as between estivo-autumnal, typhoid and pulmonary phthisis. The fact that bronchitis is such a frequent accompaniment of both malarial and typhoid conditions, should make us doubly careful in our examinations. The temperature curves and sometimes chills may mislead us, and after the therapeutic test, quinin, has been tried, should the fever continue, a sputum examination should be made.

After looking over some of the best authorities on differential diagnosis between estivo-autumnal malaria, and typhoid fever, I have greater respect for my own judgment in the matter, which I am free to say, is about as often wrong as right. Thayer says (*Lectures on Malarial Fevers* p. 140,) "The general picture is so similar to that of typhoid fever that confusion is sometimes inevitable without examination of the blood." Again, (p. 204) speaking of typho-malarial fever, he says: "It is, I think, safe to say, that the great majority of these instances, are nothing more nor less than simple typhoid fever."

Craig says (*Estivo-autumnal Malaria*, p. 188), "There is no disease with which estivo-autumnal malaria has been so often confused as with typhoid fever. . . . At least three-fourths of the fevers occurring in the Southern camps during 1898, and diagnosed as remittent malarial fever were, in reality, typhoid, as shown by the examination of the blood and Widal test.

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Clinically, this confusion has often much to justify it. In differentiating these two diseases, the microscopic examination of the blood, the Widal test, and the therapeutic test by quinin are to be relied upon."

In this connection I will add that those physicians who deny the existence of typhoid fever in the Delta, and give enormous doses of quinin for several weeks, and failing to break the fever, account for this by saying that they have failed to cinchonize the patient. My experience is that it is generally more difficult to cinchonize typhoid cases in the sense of producing deafness than in malarial fevers. I have frequently given it in high stages of typhoid fever in 20 to 30 grain doses, and get a decided reduction of temperature without producing tinnitus.

Quoting Craig again, page 188, "The mistake of considering a typhoid infection as one of malaria, after quinin has been administered for over eight days, without result, is, it seems to me, inexcusable; for all experience has shown that there is no malarial fever that will resist the action of quinin even after six days of its use; and yet, hundreds of these cases of typhoid fever are drenched with quinin, in supposedly malarial regions, under the mistaken notion that the estivo-autumnal fevers are so resistent to the drug that weeks of treatment are necessary."

Much value is placed upon the appearance of the tongue, and I have heard many say, that the broad, flabby, serrated tongue, coated with yellowish white fur, is pathognomonic of malarial fever; but I have often seen such tongues after a week of fever and under the constant influence of quinin, become narrow, pointed, dry, with brownish coat, red edges and tips. While the symptoms presented in these cases, with the history of the onset, may aid us somewhat, nothing is more convincing to us, the country doctor, who gropes his way without microscope, than the therapeutic test of quinin during the first week of our connection with the case, or until we can get a blood examination. If it prove an estivo-autumnal fever, we have pursued the proper course of treatment—if it prove typhoid, we have subjected the patient to a punishment which was necessary, it being better to err on the safe side.

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THE CONTINUED FEVERS OF THE SOUTH.*

BY W. A. EVANS, M.D.
CHICAGO, ILL.

DURING the past four months Dr. H. L. Sutherland, of Rosedale, Mississippi, and myself, with the kindly assistance of Drs. Cheek, Alexander, Matthis, Scudder, Martin, Gray and Catchings, have exerted ourselves to some extent with a view to the solution of some of the problems in connection with continued fevers of the Mississippi Delta.

The most important of all of these questions are:

1. Is there a continued form of malarial fever?
2. Is there a combination fever, to be properly designated as typho-malarial fever?
3. Are not some of the conditions, originally known as continued fever, merely mistakes in diagnosis and due to such maladies as leukemia, pernicious anemia, septic endocarditis with valvular implantations, septic endocarditis without valvular implantations, tuberculosis, secondary syphilis, trichinosis, intestinal mycosis, intoxications, diarrhea, osteomyelitis, pus infections?
4. Is there a typhoid fever due to the bacillus typhosus, in this, a type of malarial country?
5. Is there a third innominate, unknown or "X" fever in the South, in whose causation neither malaria nor bacillus typhosus plays any part?
6. Is the typhoid of the South modified by the malaria?

We have gathered together 49 cases, all of which were in some degree liable to be mistaken for continued fever. An analysis of these cases we present on the chart that hangs before you. (See p. 000)

We have tried to approach this subject from an entirely unbiased standpoint, hoping to add something to the clearing of a very perplexing question. We trust that whatever discussion is evoked may be thorough, complete, and as impartial as the circumstances will allow. The question is one of considerable gravity, because if typhoid is the considerable factor,

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 20, 1901

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as I think a perusal of our chart will show, then there is urgent need for recognition of this fact, and for hygienic measures based on this recognition. Strange as it may seem at first blush, typhoid is ceasing to be a disease of the cities, and is becoming a disease of the country. The elder Carter Harrison was accustomed to say, that when conditions were bad the people would tolerate them, but when they were damned bad the people would rise in their might and put an end to them. The typhoid situations in the cities had become so bad that strenuous effort was made to combat them, and this has been in some measure successful.

In the country, however, the shallow seep well, unfortunately too often near the privy and the stable, still prevails, and in consequence typhoid is rife.

1st Query. As to my first question, I will merely voice my acquiescence in your opinion, namely, malaria is sometimes intermittent, sometimes remittent, and sometimes continuous, and sometimes entirely without paroxysmal features.

2nd Query. *Typho-Malarial Fever.* I shall not go into this subject further than to say that since the year 1898 there have been several hundred cases recorded of mixed infection with typhoid and malaria. In some of these the malarial infection seemed to antedate the typhoid; in some the infection seemed of about the same date, and in still others the malarial fever appeared during the course of, or during the convalescence from, typhoid fever. It is positively established that double infection can and does occur, and that the result is some modification in the symptomatology, in the treatment, and in the prognosis. Lyon collects just about 100 cases of mixed infection, of which 75 are very comprehensively reported in the original sources.

Whether or not we are able to call this typho-malaria is merely a dispute over names, and therefore is not worthy of much of our time. If you will bear clearly in mind that the case is a typhoid, and that therefore all excretions are dangerous to other people, and at the same time that it is malarial, and therefore liable to be a source of infection to other people through intermediate agents—if you bear these two factors clearly in mind, then a new symptomatology, a new treatment

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and a new prognosis would warrant a new name for this combination of old diseases.

3rd Query. A short consideration of some causes of continued fever besides typhoid. (By agreement with Dr. Sutherland this portion of the question has been divided between us. I am to consider bacterial endocarditis, tuberculosis, and to mention secondary syphilis, septic infections other than those of the blood, osteomyelitis, trichinosis and intestinal mycosis.)

Diagnosis between endocarditis and other continued fevers. One of these conditions that must certainly prevail in the Southern States is bacterial blood infection. This presents the symptoms of a continued type of slow fever that is separated with the very greatest difficulty from other forms of slow fever. I know of no condition that is more fruitful of error in diagnosis than is this bacterial infection of the blood current. The range of temperature is very irregular, but can still be mistaken for that of typhoid on the one hand, and malaria on the other. It generally lasts for a matter of months rather than weeks, and there may be intervals of complete intermission lasting for weeks. One of our very best diagnostic points is an unusually rapid and weak pulse. The pulse of typhoid is slow in proportion to the temperature; while that of malaria is faster than typhoid, it is not so fast as that of septic endocarditis, and it is much more forcible.

Unexplainable weakness of the heart is always suggestive of bacterial infection of the blood. If the bacterial implantation occurs on the valves there will be murmurs. When these occur before there is general muscular weakness, they are almost pathognomonic. If the implantation is mural and the valves are spared, the diagnosis must rest upon negative phenomena, the patients being under the closest and most accurate observation. Showers of emboli are of great assistance in diagnosis. Widal is absent.

Tuberculosis. The diagnosis between this condition and tuberculosis is generally quite easy, but there are cases which present great difficulties. In a case of pulmonary tuberculosis in a person of good intelligence and under fairly close observation, there is little danger of mistake. If, however, the people are not intelligent, and if they are infrequently

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seen, mistakes will occur. Witness case no. 44 in our list. If the tuberculosis is a blood infection, and in consequence it is miliary in type, it will often escape the shrewdest observer for several weeks. If the miliary tubercles are found in the lung, the flushed face, quite rapid pulse, irritating, useless cough, a few râles, may make diagnosis possible to a very close observer. Widal is absent.

I cannot consume your time by considering the causes of continued fever not treated by Dr. Sutherland or me. I repeat the list above given—secondary syphilis, septic infections not in the blood, osteomyelitis, trichinosis, intestinal mycosis, diarheas. It is my opinion that many of your difficult cases belong somewhere in this list.

4th Query. Is there typhoid fever in this district, and are not most of these cases typhoid?

I want to begin my consideration of typhoid fever by this statement: If a patient with a long-continued temperature is demonstrated not to have malaria, pernicious anemia, leukemia, tuberculosis, internal suppuration, bacterial blood infection, with or without endocarditis, or the other diseases mentioned above, then they must have either typhoid fever or else some new fever, such as has been diagnosed as febrile, innominate or "X" fever, or thermic fever. It is my judgment that such cases will be found to be typhoid. I am willing to concede that in a majority of these cases the symptomatology is not that of classic typhoid. Assuredly, it is not the beautiful picture painted by Dr. Witherspoon before the Tennessee State Medical Society last spring, but in further explanation I must say that the old classical typhoid has practically passed from the face of the earth. The clinical picture that our forefathers knew and whose impress still rests heavily upon us, is only to be found with the greatest rarity. I do not remember of having seen that picture once in a great many years.

Let us take up, if you please, a few of the symptoms that some of the gentlemen in this audience will demand shall be present before a case can be called typhoid.

Diarrhea. Manson says that in diagnosis too much weight must not be attached to the presence or absence of diarrhea.

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Table in Mississippi, Showing the Results of Widal Examinations.

No.	Name &	Remarks
1	Suth	
2	Suth	
3	Suth	
4	Suth	
5	Suth	
6	Suth	
7	Suth	No. 9.
8	Suth	mild attack; did not go to bed.
9	Suth	as No. 7.
10	Suth	
11	Suth	unced by Dr. Catchings a typical case of slow fever.
12	Suth	d as not typhoid, by reason of duration and other phenomena.
13	Alex	
14	Chee	d a typical case of malaria.
15	Chee	fever ten days when labor came on; quininized on eleventh day, and had fever after thirteenth day.
16	Mari	
17	Chee	blood was taken one month after cessation of fever. The Doctor says this is a typical case of slow fever. See No. 30.
18	Suth	o. 28.
19	Suth	red tongue; apathy, bronchitis; looked like typhoid.
20	Chee	
21	Suth	
22	Spai	
23	Spai	d clearly a case of typhoid.
24	Spai	d of fourth week resumed work; had a relapse; severe epistaxis and intestinal hemorrhage. Daughter had same fever.
25	Suth	ike No. 19.
26	Suth	
27	Scu	
28	Suth	o 18.
29	Chee	
30	Chee	o. 17. Gradual rise of temperature; fever four to five weeks, followed by ema of legs and purpura hemorrhagica.
31	Chee	on fourteenth day, due to miscarriage.
32	Mat	
33	Mat	
34	Chee	or months with recurring malaria; pregnant; therefore not much quinin. ad been free from fever one week when blood was taken; later, hematuria.
35	Suth	
36	Hart	
37	Gra	
38	Suth	wo weeks when Widal was made.
39	Suth	gone in about five days.
40	Scu	
41	Suth	went to bed.
42	Suth	
43	Chee	
44	Suth	
45	Chee	developments showed this to be clearly other than a slow fever.
46	Mat	
47	Mat	een back from hills just six weeks when taken sick. The Doctor thinks a typhoid, contracted in the hills.
48	Suth	
49	Suth	
50	Suth	
51	Chee	l type of typhoid fever.
52	Chee	id fever, followed by otitis media.

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.r olds, I strongly incline to the idea that this was a

he practice of Dr. Cheek. The Doctor thought it
Vidal was given. This blood was examined twice.
)n was made twenty days after the fever ended.
ase of typhoid fever. The blood was taken in the
eaction.
ild case of slow fever. She was seen only once by
taken two weeks after the fever ended. There was

)m two other standpoints:
: bottom?

, because the attending physicians do not agree with
counting 17, 24 and 38, we find 29 fairly clear cases
ases of fever of all sorts. Of these 29 we know of
eath rate of 13 per cent., and this is quite high for
one case in which the hemorrhage symptoms were

s amongst this list of cases. A great many of them
er," and were just what most practitioners have in
r, yet the Widal test shows that they were typhoids.
saw that this slow fever was only typhoid. Soon all
the cases, came to use the terms interchangeably.
the term slow fever is used, it has been interpreted

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Constipation is much more common in the typhoid of tropical countries than it is in Europe.

Johns Hopkins Hospital Bulletin, vol. 8, is devoted to the subject of typhoid fever. It contains a study of 829 cases, with a very accurate analysis of the tabulated symptoms therein. In that study Dr. Osler found that diarrhea was present in only 20 to 30 per cent. of the cases at the beginning of the illness; 322 had a diarrhea during the course of the illness without the intervention of medicine, and 21 had a diarrhea without the use of drugs; 290 showed constipation throughout the disease.

Brourdal and Thoinot say, while diarrhea is the rule, constipation is sometimes found as an initial symptom, and sometimes as a continued symptom throughout the disease. Barth found continued constipation in 30 per cent. of the cases. Post-mortems on these constipated cases have shown the same typhoid lesions in the cases that had diarrhea. Jenner, Hudson and Wilkes have shown cases where the constipation persisted throughout, even where there was hemorrhage and perforation.

According to Curschman, of 3835 cases examined from the standpoint of bowel movement, 1289 had diarrhea throughout the fever; 1359 had transitory diarrheas, and 1187 had no diarrhea at any time. I also give Berg's statistics on typhoid in Leipzig, 1886 to 1893, and the statistics of the Hamburg epidemic of 1887. The figures are in parallel columns:

	Leipzig	Hamburg
Total cases	1875	2240
Diarrhea throughout fever	480, or 25.6%	809, or 36.1%
Stools normal throughout	83, or 4.4%	116, or 5.2%
Constipation present throughout	307, or 16.4%	567, or 25.3%
Normal stools and constipation alternating	62, or 3.3%	52, or 2.3%
Diarrhea alternating with normal stools	144, or 7.7%	202, or 9.0%
Diarrhea and constipation alternating	550, or 29.3%	424, or 18.9%
Diarrhea and constipation and normal stools		39, or 18.0%

Archinard, reporting 26 cases from New Orleans, found constipation in 21 and diarrhea in 5.

My experience in making post-mortems is entirely in keeping with the observations of the authorities on the subject, i.e., if there is much ulceration in the large intestine there will be

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diarrhea. If the large intestine is not ulcerated and inflamed, there will probably be constipation.

Certainly, one of the symptoms on which greatest stress will be laid is gradual oncoming of the disease, and the typical typhoid range of temperature. I will refer to prodromes presently.

Fever curves. Of Osler's 829 cases, 200 began with chills. Of these, 107 had one chill, and 93 had two or more, or, in other words, between 20 and 25 per cent. of Osler's cases began abruptly. Ford, in the *Montreal Medical Journal*, has reported a case of typhoid fever carefully studied, and on which a very thorough post-mortem examination was held, which had ten distinct shaking chills during the course of the fever, and for which post-mortem showed no other cause except typhoid.

The last case of typhoid fever I posted in Cook County Hospital morgue, and in which I found typical typhoid lesions unassociated with any other, had a history sheet which began as follows: "Began three weeks ago with severe chills lasting several hours."

Vaughan, in his report to the Surgeon-General of the United States Army, says: "The temperature curve was usually that of typhoid when not vitiated by antipyretics." Proposition no. 47 of that report states that in military practice typhoid fever is often an intermittent disease. He says: "I do not mean that the apparent intermissions are afebrile; I only mean that the men sick with this disease had periods of remission which were so marked that the regimental surgeons often returned them to duty."

Manson, in his work on Tropical Diseases, says: "People who have typhoid fever in malarial districts are liable to chills and irregularity of temperature, entirely irrespective of any existing malarial infection. In Archinard's statistics 23 cases began with a gradual rise of fever; 3 began with a sharp chill.

Coming back to the statistics of Osler, we find that if we are to rely upon the gradual increase in temperature as a diagnostic feature, we shall err in 25 per cent. of our cases.

Anorexia. In Osler's series, 414 had anorexia, or began with anorexia, or, in other words, in just one-half of the cases of typhoid, the patients were anxious to eat.

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In Murchison's statistics, covering several thousand cases, the appetite was retained throughout the disease in 11 per cent. of all cases. Porthier, of New Orleans, reports a case whose temperature never went over 100.8°F. who had a ravenous appetite, whose blood gave a Widal, who died from perforation, and whose autopsy showed typhoid. Thus we see that the loss of appetite cannot be depended upon as a diagnostic sign of typhoid fever.

The typhoid tongue. Says Herrick, in a series of observations based on nearly 1000 cases of typhoid fever, "The tongue gives much less evidence in making a diagnosis than it does in forming a prognosis." Of Archinard's cases, 19 had a typhoid tongue, 7 had a broad, flat tongue.

We are justified in the assertion that the small, red, pointed tongue is not to be expected in the early stages of typhoid, and that its presence is indicative of severity of the process.

Malaise. In Osler's series of cases only 169 had malaise, or, in other words, about 75 per cent. of the cases did not begin with that malaise that is so frequently found in typhoid.

Let us pass from the consideration of the symptoms that are to be found at the inception of the disease to a consideration of those that are held to be of greatest diagnostic value during the later course of the disease.

Perhaps the most diagnostic of this group of symptoms is *hemorrhage from the bowel.* This symptom is well nigh pathognomonic, but it occurs so late in the course of the disease that its value from a practical standpoint is nearly lost. In the report of Drs. Vaughan, Shakespeare and Reed, the statement is made that a typhoid subject is voiding typhoid bacilli from his bowels during the period of incubation and during the course of the disease. The harm, then, that would be done by a typhoid patient has been largely done before the oncoming of the hemorrhage. Again, comparatively few of the cases give intestinal bleeding, and by reason of this fact the symptoms lose in value. In the 829 Johns Hopkins cases, only 4 had intestinal hemorrhage. Homolle collected the records of 10,000 cases of typhoid fever, and these showed hemorrhage in 4.65 per cent. of the cases.

The conclusion we are allowed to arrive at with relation to

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hemorrhage is, that its presence is almost pathognomonic, but its absence is a symptom of no great value.

Intestinal perforation. The remarks made in relation to hemorrhage apply with even greater force to perforation. Brourdal and Thoinot collected 1721 cases from the practices of four Englishmen, five Frenchmen and six Germans, and perforation was found in 196, or 11.38 per cent.

Abdominal pain and tympanites. Osler found abdominal pain present in 227 cases; absent in 602 cases. Pain in the right iliac region present in 6 cases. Herrick says: "Marked tympanites is seldom met with." Louis, Jenner and Murchison say that meteorism and tenderness are a fair sign of severity; in mild cases they are absent.

In the post-mortem made by me already referred to as having begun with chills, and in which the typical lesions were unmistakable, the abdomen was retracted.

MacCrae studied 500 cases of typhoid fever from the standpoint of pain, tenderness, meteorism, and gurgling. Two-fifths of the patients were free from pain and tenderness; one-fifth were tender. Pain due to some other cause than the typhoid lesion was present in 14 per cent. of the cases. We know that pain, tenderness, right iliac gurgling, marked meteorism, are absent about as frequently as they are present.

Typhoid state. We can truly say that under the influence of proper nursing and proper care, the old classical typhoid state has ceased to exist. Dr. I. N. Love says: "We all recognize the fact that typical typhoid fever of twenty-five years ago, with sordes on the teeth, tympanites, etc., is not seen today."

Says Curschman: "It is particularly noteworthy and always to be kept in mind that the so-called typhoid state, that symptom complex that formerly occupied the most prominent position with regard to the recognition of the disease, has lost more and more of its diagnostic significance, and that at the present day it is recognized as having been an obstacle to diagnostic progress in the past."

Delirium. Delirium was found early in 31 of Osler's cases.

Says Herrick: "A great many patients are mentally quite bright throughout." Vaughan calls attention to the fact that

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there is not infrequently some little mental flightiness in the latter weeks, and not infrequently a wakefulness. Occasionally delirium is acute. With a small percentage of cases it is maniacal, entirely unlike the typical picking delirium of the old-fashioned typhoid. We see that delirium, while a purely good sign, is not always present, is not of a regular type and is not peculiar to this disease.

Rose spots. These are of great diagnostic value, but it is to be remembered that they are rather difficult to find. According to the last edition of Osler's textbook on medicine, they were present in 666 of 829 cases. While they are usually on the abdomen, they are not infrequently found on the other parts of the body. It is very difficult to locate them on the negro and mulatto. They frequently remain out only one or two days, so that their value is in some measure dependent on the nursing and care that the patient gets. Curschman says: "As opposed to some observers, as, for example, Murchison, I would distinctly emphasize the fact that the roseola may be entirely wanting throughout the entire course of the disease. In 1261 cases at the Leipzig clinic, roseola was absent in 260. In 1887, in Hamburg, I observed 1601 cases of typhoid, in which roseola was absent in 325. Lyons says that in typhoid that is under malarial influence, rose spots seldom appear. You will notice rose spots recorded but once on this chart. Some of this may be due to the fact that the cases were seen unfrequently. Fort reports rose spots in 91 per cent. of his cases. In Archinard's statistics on typhoid as found in New Orleans, rose spots were present in 16 cases, they were absent in 10, and it is possible that they are not found in the Southern States as frequently as in the North.

From the above consideration of some of the symptoms, it will be seen that the diagnosis of typhoid fever from the standpoint of symptoms is very difficult. There is no one of the cardinal symptoms that is present in much more than 50 per cent. of the cases, whilst in the case of the majority of the cardinal symptoms we find that they are more frequently absent than they are present. If you will read carefully the conclusions of the Johns Hopkins school, you will find that the clinical diagnosis of typhoid fever is very frequently wrong even in their hands.

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In my judgment, Dr. Osler has studied typhoid fever more carefully than any living man.

I quote from the paragraph marked "Diagnosis," in the article on typhoid in the latest edition of his Practice: "There are several points to note. In the first place, typhoid fever is the most common of the continued fevers. Second, it has extraordinary variations in its manifestations. Third, errors in diagnosis are inevitable under the most favorable circumstances. Lastly, let the cocksure physician, who never makes mistakes, read the report of the typhoid commission of the United States during the Spanish-American war."

I quote from that report as follows: "We did not finish our first day's work at Camp Alger before we saw that one factor in the problem must be thoroughly dealt with before we could hope to reach a satisfactory solution—I refer to the question of the scientific diagnosis of typhoid."

Guiteras says: "Had typhoid fever rested on a symptomatic basis exclusively, it would have fallen to the ground. Fortunately, it rested on a firm histologic basis."

The Typhoid Commission's proposition no. 41 was: "The continued fever that prevailed among the soldiers of this country in 1898 was typhoid." And as subproposition "D," "The post-mortem examinations, in the aggregate a large number, showed them to be typhoid." Proposition no. 44 says: "Army surgeons correctly diagnosed a little less than one-half of the cases of typhoid; and moreover, in recognizing nearly one-half of the cases of typhoid fever, the army surgeons probably did better than the average physician throughout the country does in his private practice." This is the report of Vaughan, Reed and Shakespeare.

Surgeon-General Sternberg says: "This failure to recognize typhoid during its early stages is an error of diagnosis which was made on a very extensive scale during the Civil War, has been made on an equally extensive scale by the surgeons in the British army on duty in India, is being made by the German and French army surgeons, and is still being made by practitioners of medicine in this country."

Says Manson: "Existence of typhoid in the tropics was not only ignored, but actually denied even by physicians and

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pathologists of repute, and malaria so dominated all views in the tropics that nearly all cases of pyrexia were relegated to the list of malarias."

Says Archinard: "Typhoid fever was formerly regarded as of no consequence in New Orleans, while now we know it to be a disease of considerable frequency."

Curschman says: "The varieties of the clinical picture course and termination of typhoid fever resulting from all these various influences are so diverse, often so completely opposed, and, on the other hand, at times so running together, that any exhaustive description is impossible. Every case, therefore, is different from every other, and any description can serve only as a guide in the midst of this variability." Murchison, Hirsch and Gressinger say that no part of the world is free from typhoid. Says Curschman: "Warm and tropical countries do not differ greatly from cold regions with reference to the occurrence and frequency of typhoid fever."

If this is true, gentlemen, of typhoid seen in hospitals, with nurses constantly in attendance, how much more is it true under the circumstances under which you labor? Unfortunately your cases are not well nursed, and you cannot see them with regularity, so that it is truly as Hippocrates has said, "Experience is fallacious, and judgment difficult." (In the above consideration I have used certain symptoms as indices. Other symptoms, for example bronchitis, might have been handled in the same way. It is but fair to say that the discussion of symptoms one by one as pursued above is not altogether accurate or even for the best under ordinary circumstances. No one of these symptoms is regarded as pathognomonic. Typhoid is always diagnosed by its symptom complex. Nevertheless the variation in these symptoms as to their presence, their sequence and their prominence makes diagnosis difficult. Then every one should be on the alert for new symptoms.)

I wish to put particular stress upon a symptom that is destined to bring order out of chaos. A consideration of this table will show you that the keynote of it is the Widal reaction, and therefore it is proper to inquire, what is the value of this reaction?

McFarland quotes Stengel and Krauss as having collected

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2392 cases of typhoid with Widal, in which was given 92.5 per cent. of the cases. In 1387 diseases other than typhoid, there was no reaction in 98.4 per cent. of the cases. A total of correct results of 96.5 per cent., of incorrect results of 3.5 per cent.

Anders and McFarland, in 1899, made 1000 observations, largely on soldiers of the Spanish-American war. The reaction was correct in 95.64 per cent. of the cases.

Gwynn, in Johns Hopkins Hospital reports, vol. 8, gives the results of Widal examination in 265 cases diagnosed clinically as typhoid. 264 gave the Widal reaction; the other case ran a typical typhoid course and seemed to be due to an infection with another member of the colon group. There was failure in two cases thought possibly to be typhoid. Of the cases of probable typhoid, 99.6 per cent. gave the Widal reaction correctly. Of the 265 cases, 97 gave the reaction the first day that they came into the hospital. Stewart, of Philadelphia, collected 1000 cases and found the Widal correct in 96.9 per cent. Musser says the Widal reaction is correct in 99 per cent. of the cases. He adds: "As clinicians, therefore, we rely on the Widal reaction."

The Chicago Health Department reported on 263 cases taken under much the same circumstances as these, being sent in by doctors promiscuously throughout the city, with little or no clinical data, the history being obtained by letters written later. 166 cases gave the Widal, and the doctors later reported that 135 of these were clinically typhoid. 174 gave no Widal, and of these the clinical reports said that 37 were typhoid; 98 were diagnosed as conditions other than typhoid, and replies were not received from the remainder. Abbot has found the reaction correct in 97 per cent. of some 10,000 examinations.

To quote from the very able article of Dr. William Krauss, of this city (Memphis): "The clinical diagnosis is in doubt in one-half of the cases, whilst the Widal diagnosis is correct in 97 per cent. of the cases." McFarland says that the Widal is liable to appear in the first week, will probably come in the second week, may be delayed until convalescence is established, may be present typically, and then disappear in the course of one or two hours to reappear later. It may begin to decrease as soon as the fever is ended; it is frequently gone at the end

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of the first month of convalescence; is seldom found after the second year. It has been found after the lapse of twenty years.

Says Curschman: "Complete absence of the reaction is one of the rarest of exceptions. Among a large number of cases, in only two, which were shown by autopsy to be typhoid fever, have I failed to observe an undoubted reaction."

Says Porthier, of New Orleans: "From my experience with the reaction at the Charity Hospital, I have never found Widal's reaction, when positive, at variance with the pathologic lesions at the autopsy. When negative, I have found only two cases of typhoid at the autopsy."

It seems to me, that it is fair to conclude that in a country where there are comparatively few diseases giving a continued fever, the Widal reaction, by reason of its late appearance, is of value in only a small number of cases, but with you who can see your patients but rarely, who do not have trained nurses at your disposal, and who have many causes for continued fevers, Widal becomes an imperative necessity.

This criticism is not intended in any way as caviling, critical, or even unsympathetic. I have been a country practitioner, labored under exactly the same disadvantages as those under which you live, and therefore I can fully understand the difficulties that encompass you. But you have here a transmissible, severe, and often fatal disease, with a most variable symptomatology, with no symptom present in over 70 per cent. of the cases, and here now a new symptom, right 96 per cent. of the time, is offered. What will you do about it?

I quote the following from Curschman, endorsing it most emphatically: "It would be a serious blow to the further development of our clinical knowledge if laboratory methods should displace careful, general and visceral examination. But just as little as exploratory laparotomy is likely to restrict thorough clinical investigation, so little also is it probable that the bacteriologic method will ever be the exclusive one in the diagnosis of infectious diseases. The routine use of laboratory methods, whenever possible, cannot therefore be too strongly urged, if an accurate, certain diagnosis is to be made in all cases. They do not and cannot take the place of careful clin-

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ical observation, but must be regarded simply as aids and accessory factors in arriving at diagnostic conclusions."

A consideration of the charts following this paper, together with all the light of literature and of experience, teaches us that many of the continued fevers of the Delta are typhoids.

5th Query. Certainly, a very interesting and valuable subject for our consideration is the subject of a third fever. Looking up the literature of this subject I find the very greatest diversity of opinion as to the nature of the fever even amongst those who are most certain of its existence. This variance of opinion prevails as to the cause, the course, and the symptoms. If we are to accept the opinions of these articles at their face value, we must concede that there are several entirely different kinds of unknown fever in the Southern States, due to many different causes and running many different courses, and having great variance in their death rates. The one of these that seemed to me most likely to be a specific condition was that fever written of by Dr. John Guiteras, then living in Florida, and now a professor in the University of Havana. An analysis of Dr. Guiteras's cases is as follows:

In 1885 Dr. Guiteras wrote of thermic fever thus: "If in all these typhoid, malaria and yellow fever localities we exclude such cases as belong really to the reigning epidemic, we will find a number of cases left which go very well together, characterized by the existence of fever in the absence of specific symptoms. This fever, thermic, is probably produced by an exhaustion of the heat-controlling centers, which is brought about by their prolonged over-exertion under the influence of continued atmospheric heat. As a general outline, it may be here stated that it is a fever which often reaches its maximum in its first day, and gives very little disturbance of the body function."

He reports 45 cases of his own, and adds three taken from the records of the French "Fievre Inflammatoire." He says that the first 38 are cases of malaria, typhoid, or transitory inflammatory fever. Case 39 he diagnosed as thermic. The case was sick four days before he came into the hospital. On the fifth day he was maniacal, and jumped out of the window. He remained actively delirious and died in coma on the seven-

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teenth day. Autopsy was negative as to all malarial points. According to the symptomatology of Happel and others, this was not a case of continued fever. Case 40 was typhoid. Case 41 was typhoid. Case 42 he calls thermic. The history I would interpret as being that of a pregnant woman having malaria and rheumatism and aborting. Cases 43, 44 and 45 are marked as thermic. His description of them averages less than a line to each. His whole structure is based on the following case 39, symptomatically wrong, but with a negative post. Case 42, which seemed to me easier of explanation on other grounds, and 43, 44 and 45, with a description much too short. These were before the days of Widal. If the learned, accurate, and gifted Guiteras cannot make out a better case than that, the rest of us had better let it alone.

Krauss, of this city, has written a very able article in which he discusses at length typhoid and malaria, and then devotes one page to "X" fever. Let us consider his points, not because of special opposition, but because of the ability and clearness of the presentation, and its freedom from loose assertions. His points were 12 in number:

1. "They do not yield to quinin." This merely proves that they are not malarias. We read elsewhere in Dr. Krauss's article that it does not even prove that.

2. "Has no typic typhoid range." The charts going around the room (see p.—), the statistics that I have quoted, and your own experience, answer this question. A temperature range is valueless unless the temperature is taken and recorded at least twice a day. Even then it is frequently misleading, especially in a malarial district.

3. "It has no prodomes." I would answer this as follows: (a) The history of prodromes is usually very faulty and largely the personal coloring of the patient. (b) Prodromes are not constant in typhoid. (c) Not all writers are agreed as to the absence of prodromes in this fever. Happel writes: "The patient may or may not have malaise for several days." It is Moore's observation that malaise is present. Other conflicting opinions could be quoted. (d) Lastly, it is a minor point any way.

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4. "It lacks the bowel lesions." If he means by this the symptoms of bowel lesions, then that point has been sufficiently answered elsewhere. If he means the lesions themselves, then I cannot make it jibe with his proposition No. 11: "They never die of an attack."

5. "There is no dryness of the skin and tongue." It would detain you uselessly to return to what I have said on this point.

6. "There is no delirium." This is in accord with Happel. It is partly in accord with Guiteras, though it is directly contradictory to the symptoms in the only one of his cases which post-mortem did not explain on other grounds. I will not repeat what I have already said as to the repeated failures of this as a cardinal symptom of typhoid.

7. "The appetite remains good." This is a minor point covered by my statistics.

8. "The Widal reaction is absent." As the Doctor is in the room, I am going to ask him to give me more data on this point. At that time he had had but two observations, and we would like a further report. As you have learned, this chart does not support this point.

9. "There is leukocytosis." As I understand the Doctor, he only saw the blood of these two cases, and they had leukocytosis. A little later on he says, "the only cases that I have been able to follow clinically were either typhoid or malaria, or a double infection, and had no leukocytosis." As he only examined the blood, it is quite possible that these two cases might have been either sepsis, endocarditis, typhoid with secondary infection, suppurating tuberculosis, etc.

Thayer has made a very able study of the blood in typhoid. I pass over everything except his observations on the leukocytes. He summarizes under twenty-three heads. No. 1, 2, and 3 tell of decrease of leukocytes in typhoids. The number sometimes is under 5000. Nos. 5 and 6 tell of leucocytosis due to treatment, especially cold baths. Nos. 8, 9, 10, 11, 13, 15, 16, 20, 21, 22 and 23 all treat of leucocytosis in the course of typhoid. He studied about twenty-seven different conditions found more or less frequently with typhoid, giving leukocytosis, such things as bronchitis, pneumonia, cystitis, hemorrhage,

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perforation. In addition, I offer as further argument that this point would not help us in suspected malaria, tuberculosis, blood sepsis, and often not in bacterial endocarditis. I quite disagree with Dr. Witherspoon as to this being the key to the situation. Finally, a leukocyte count is not only a laboratory procedure, but it requires the microscope practically at the bedside. Many of the arguments for this "X" fever that I have read have been coupled with strenous opposition to laboratory procedures.

10. "There is no eruption." I have quoted statistics on this point. I will not repeat them. It is possible that we often overlook rose spots, especially when we see our patients once or twice during the course of the fever. You will note that only one case had eruption in our series. This point may be well taken. Let us investigate it carefully.

11. "They never die of an attack." Guiteras, in his very able articles, says that they do, and he cites some posts. If Dr. Krauss's point is true, then this fever in the Delta is not a continued fever, for a certain percentage die. Moore, of South Carolina, says that many die. In getting up the literature for this paper, I found greater diversity of opinion as to the death rate than any other department of the subject.

12. "They are not immunized by it." This would not distinguish them from malaria, typhoid, any form of sepsis, tuberculosis, etc., etc.

Dr. Happel's paper is more difficult of analysis. I see no point that has not been covered in some of the other papers cited, except his reference to very free sweating. This sweating is quite frequent in typhoid with secondary sepsis. It is not infrequent in uncomplicated typhoid. Jaccoud and various Italians have written a good deal on it as a type of typhoid, calling it the sudoral type of typhoid. You must remember that the sweat glands are habitually more active in the residents of warmer climates.

As to the paper of Dr. West, read before the Tennessee State Medical Society in 1901, I am at sea. I cannot understand how forty consecutive Widals and malaria examinations could be made in Tennessee with entirely negative results. He reports the whole forty cases in less than two pages.

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Finally, Dr. Leroy writes me that they do not know of it as a cause of death in Nashville. The vital statistics of New Orleans do not mention it.

The only fever in this section that is not clear is that with a comparatively mild course, a clear mind, little sense of grave illness, little abdominal tenderness, and a rather irregular temperature curve. My experience, my reading, my sense, teaches me that more study will find a place for every one of these cases in some group already outlined. This is true of the cases charted.

I am convinced of the following points:

1. There is no febris innominata.

2. Most of the cases of this supposed group are typhoids. And now, as a subhead, my only answer to question 6 is, that typhoid fever in a malarial district is modified as to its symptomatology by malaria. I am not prepared to state whether this modification occurs in the bacillus outside the human body, in the bacillus in the human body, in the human body itself due to acute intoxication with malaria, or to chronic malarial intoxication, to nervous habit begotten from repeated malarial attacks, or to the effects of prolonged high temperature. We are to remember the saying of a distinguished Frenchman, Peter: "*C'est le malade qui fait la maladie.*"

3. The post-malarial continued fevers are usually malarias, pure and simple. These have been most thoroughly studied by Bastianelli, Bignami and Marchiafava.

4. The continued fevers left after the above have been subtracted are of the following groups: Septicemias (so-called cryptogenic), tuberculosis, pulmonary and miliary intoxications, anemia, lukemia, and diarrheas.

APRIL— Oh, month that comes with
rainbows crowned,
And golden shadows drest;
Constant to her inconstancy
And faithful to unrest.

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TEMPERATURE CHART

No. of Patient 297 Ward 30 Name _____ Age _____ Diagnosis _____

Resps.	Pulse	Temperature	DATE
78	183	108.3	
76	180	108	
74	177	107.7	
72	173	107.3	
70	170	107	
68	167	106.7	
66	163	106.3	
64	160	106	
62	157	105.7	
60	153	105.3	
58	150	105	
56	147	104.7	
54	143	104.3	
52	140	104	
50	137	103.7	
48	133	103.3	
46	130	103	
44	127	102.7	
42	123	102.3	
40	120	102	
38	117	101.7	
36	113	101.3	
34	110	101	
32	107	100.7	
30	103	100.3	
28	100	100	
26	93	99.7	
24	90	99.3	
22	87	99	
20	77	98.6	
18	68	98	
16	64	97.7	
14	60	97.3	
12	55	97	
10	50	96.7	
8	45	96.3	
6	40	96	

DAY OF ILLNESS	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

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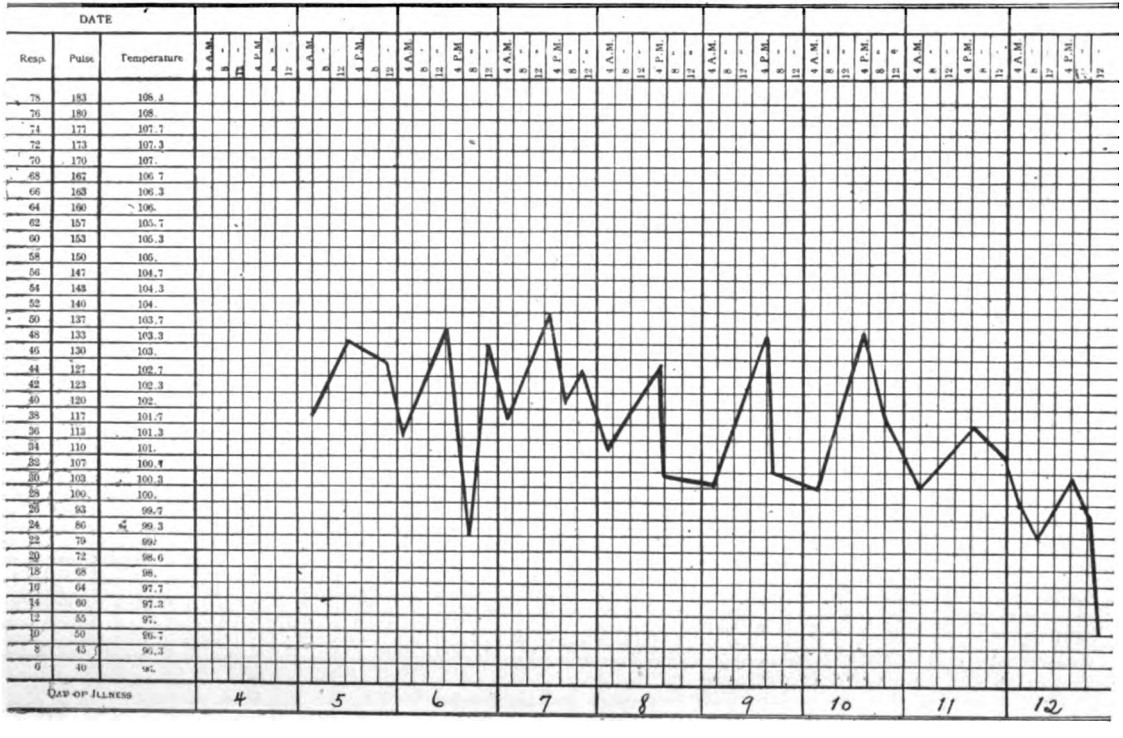
TEMPERATURE CHART

No. of Patient 216 Ward 28 Name ..... Age ..... Diagnosis .....



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Discussion.

Dr. E. H. Martin, Clarksdale, Miss.: The papers which have been read are replete with interest, and from the general tenor of all we gather with satisfaction that the profession is fully decided as to the source of malaria, its mode of communication, and the proper treatment of the disease; and, in fact, that we are as one on all points except those touching fevers of duration.

"Slow fever," in the old sense of the word, has received a black eye, and we have today heard testimony from high authority that there is *no continued malarial fever not amenable to quinin* properly administered. In other words, "slow fever" still means slow doctor in that sense, and that was the former meaning of the expression, i. e., a patient with "slow fever" was supposed to have a form of malaria not affected by quinin; hence many cases of malaria were neglected. However, we still have continued fevers, and we have been taught today that, when a fever persists after several days of cinchonism (real), malaria may be excluded, and that such fever must be either typhoid or from some undetected organic inflammation. Dr. Evans excludes the expression "post-malarial fever," and says that "a post-malarial fever is a malarial fever." With all due respect to such a high authority, I must contend for the word. A *malarial fever* is a rise of temperature caused by a freshly freed (or formed) dose of malarial toxin and presupposes the existence of active malarial organisms. A "post-malarial fever" is one which may persist after the destruction of all malarial organisms in the patient host, and is due to auto-intoxication, or ptomain absorption from bowel or liver, not to present malaria, enteritis or hepatitis. That this condition is frequently met, we all know. Such cases are aborted or prevented by the exhibition of quinin during the first few days of the fever, i. e., while the fever is strictly malarial. But if the doctor is "slow," or called too late, such fever will persist after cinchonism has eliminated the causative malarial factor. It is worthy of note that while active malarial germs are present, there is always danger of a pernicious exacerbation, commonly called "congestion"—really an overdose or lethal dose of the malarial toxin. But when the malarial germs have been destroyed too late for a perfect return to health, and the fever continues from auto-infection due to some functional disturbance left by the malaria, "congestion" never occurs—a pernicious attack is never expected or seen. To call this post-malarial condition "malaria" would be as illogical as to call the paralysis following that disease "diphtheria," or certain forms of chorea "rheumatism," or a certain paralysis "arsenic poisoning," or a heap of ashes "a house on fire."

Dr. Evans has done us a great service, with the assistance of Dr. Sutherland, in proving that typhoid fever exists in the Delta. Very few of us from the Delta have ever seen typhoid, imported cases excepted; and we of the Delta have all seen imported cases of typhoid come in repeatedly and run their courses without spread or the infection of others. In a few instances a second or third case has been noted, and in each of such instances a tank or cistern has been the source of the family water supply. Typhoid feces thrown out indiscriminately do not seem to infect driven wells—our usual source of water supply. The certainty of infection of cisterns through seepage is well recognized, and where above-ground tanks are used the typhoid bacillus must be conveyed in the dust to the roof of the house, to be washed into the tank. However, we have been a

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people in the wilderness, knowing only malaria—the rustic disease. As we become more civilized and more crowded, we may expect more and more of the urban disease—typhoid—and we will be watching for it. May it linger long in coming as an every-day affair. But when it does occur, how are we to know it? Dr. Evans has shown us today that none of the clinical symptoms is reliable; that a patient with typhoid puts on a masque and makes a puzzle picture of himself; that a clinical diagnosis *cannot be made;* that only where the Widal reaction can be found may you say, "This is the real thing." And he proves that the Widal test is correct—by the clinical symptoms! Well, that's all right. Dr. Evans is a laboratory man; his point of view is circumscribed. I am willing to admit that the Widal reaction is the most reliable symptom, and I will make the test in every suspicious case, but I won't depend on it for more than twice what any other cardinal symptom of typhoid might weigh; for I have seen the Widal test positive in a case of pneumonia and negative where I could swear to typhoid. Make your diagnosis and use the laboratory test to confirm it, or depend on it in doubtful cases.

We are greatly indebted to Dr. Evans and to Dr. Sutherland for their papers. Their earnest work is to be heartily commended. They may have mixed us up some, but we are nearer the truth today than we were ever before, and greatly through their efforts.

Dr. J. B. McElroy, Stovall, Miss.: The remarks of Dr. Evans are so entirely in accord with my experience that I desire to emphasize and supplement what he has said. It is unnecessary to dwell upon the importance of the Widal reaction in the diagnosis of typhoid fever after what he has said.

To the cases which he has presented I should like to add twelve cases of typhoid fever which have come under my observation in Coahoma county in the past twelve months. It may be worth while to note that this county adjoins Bolivar county, from which all of his cases were collected. Of this number, ten were black, two were white; six were male, six were female; two occurred in February, two in April, five in September, and three in November. There were no deaths. There were prodromic symptoms of malaise in eight. Onset: headache in seven, chills in three, cramps in abdomen in two, sore throat in one, epistaxis in three. Symptoms: rash in one, which was a general erythematous rash over back and chest; diarrhea in six, spleen palpable in nine, marked nervous symptoms in four, bronchitis in five; Diazo reaction in twelve; Widal reaction positive in nine, not tried in three. Of those which were tested the reaction was not always positive at the first trial. There was hemorrhage from the bowels in one case, deafness in one, lobar pneumonia in one; malaria was associated in the beginning with four, as shown by the presence of parasites in the blood, which disappeared under the influence of quinin, with alteration of the fever curve. The duration of the fever was from fifteen to thirty-five days.

I have notes of thirty-five cases of estivo-autumnal malarial infections as determined by the presence of parasites in the blood; but one of these, without discoverable complications, resisted quinin longer than five days. In this one the absorptive energy of the stomach was found to be at fault, and the fever yielded to the hypodermatic administration of quinin.

I think I have rarely seen a post-malarial fever referred to by Marchiafava and Bignami. Besides the various diseases—viz., tuberculosis, endocarditis, syphilis,

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rheumatic fever, leukemia, hepatic fever, septic fevers, auto-intoxication, etc.—simulating the diseases under discussion, I think we might add undulant or Malta fever. If I mistake not, Dr. Guiteras, at the meeting of the Pan-American Medical Association held in Havana, disclaimed thermic fever, and was inclined in the light of later observations to regard these as cases of undulant fever.

I do not think the nosology of diseases should be enlarged to include any fevers occurring in our midst. In this respect, there is not so much which is new to engage our attention, but there is much that is old which should be learned.

Dr. Wm. Krauss, Memphis: Dr. Evans, in referring to a paper of mine, forgot to mention that it was four years old, and he does not seem to have read it very carefully, or he would have seen that it was part of a symposium, and which was to represent the views of the oldest and best informed practitioners in this section at that time. I stated in this paper that I had seen but four cases in which no diagnosis had been made, and one only of these was my own, which occurred in the ante-Widal period. The patient was induced to remain in bed only with the greatest difficulty; was always hungry, and in spite of large and continued doses of bichlorid of mercury was persistently constipated. Blood examination did not reveal any malarial organisms. I coined the name "X" fever as a provisional term, stating that it was up to the doctors in this section to investigate these fevers. The paper was a plea for the employment of the Widal test, which was elaborately discussed. Dr. Evans is to be congratulated for finding some one willing to send him slides and case reports, since I have been begging for them for years without results. In this connection I recall a statement of Dr. Henning at that meeting to the effect that half of the fever cases in his service at the City Hospital that year showed, according to the reports of the city bacteriologist, both Widal reaction and malarial organisms. I am very sure that there is something wrong about this, as it does not accord at all with my experience. Dr. Evans refers to a paper by Dr. West, reporting a series of cases of fever in which neither malarial organisms nor the Widal reaction was present. I am very reliably informed that he is incompetent, and two Nashville bacteriologists assure me they have never seen such fevers. In a recent paper, and which I told Dr. Evans about before he came here, I adduced some evidence that the fevers with the definite symptomatology for which he takes me to task, are post-malarial, and represent a kind of acute cachexia in improperly treated malarial fevers. This paper appeared in the December, 1901, MEMPHIS MEDICAL MONTHLY.

Now, I do not think even Dr. Evans would be willing to say he had a case of typhoid fever if he had a fever in which *all* of the symptoms were the reverse of those of typhoid, in spite of his array of statistics of cases, lacking one or more of the essential symptoms, especially if the patient told him he had such spells of fever every summer. He asks me to explain how I can say they lacked the "bowel lesions," if they did not die. One such patient did die of an intercurrent trouble after his fever had subsided, and he presented no evidence of typhoid, but the malarial pathology was well marked. Recently I examined the blood of a patient which showed that he had malarial fever refractory to quinin without any typhoid, at least he had had typhoid some years ago, and no less a man than W. G. Janeway had made the diagnosis.

Dr. Evans makes no reference in his elaborate paper to extra-intestinal typhoid infection, such as nephro-typhoid, pneumo-typhoid and typhoid septicemia. I

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think we have doctors here that can be trusted to differentiate between typhoid and septic fevers.

Dr. Eugene C. Hay, Hot Springs, Ark.: I agree with Dr. Evans in that the symptoms of typhoid are not typical, as has been my experience with cases under my observation at Santiago during the Spanish-American war. One case started with a chill, which recurred several times, and after the chills were broken the case continued as regular typhoid. In another case there was epistaxis, followed by delirium, rose spots, and the later development of the characteristic eruption of syphilis. The case went on to recovery under iodid of potassium.

Dr. J. H. Reilly, Memphis: I think if Dr. Evans lived here with us he would be placed under more serious circumstances; he would not be so certain. I should like to know if there is not some possibility of confusion of the typhoid bacillus with the bacillus coli communis.

Dr. W. A. Evans: I am aware that my paper treats this subject in a somewhat fragmentary manner. All of the time that you would give to Dr. Sutherland and me would still be inadequate for its proper handling. In discussing the percentages of accuracy and inaccuracy in different symptoms, I have not exhausted the list of even prominent symptoms. At that, I have spent too much time on this division of my subject. My excuse for using so much of your time in discussing the value of isolated symptoms was that I have read so many articles in which the existence of a new fever was predicated solely on the absence of some symptom or symptoms frequently found in typhoid.

Dr. Martin's criticisms that the paper was too nihilistic is in some measure just. But we must all bear in mind, those of us who argue for, and those of us who argue against, a third fever, that not one symptom, but all of them, are to be considered in a diagnosis of typhoid. That intestinal hemorrhage is so frequently absent, is an argument against the use of hemorrhage as a *sine qua non* for typhoid. It is not an argument against its diagnostic value when it is present. If I have been misunderstood along this line I wish to correct it at this point. My position is this: Any sign of typhoid fever, be it rose spots or hemorrhage or Widal, is liable to be absent. The diagnosis of typhoid must be made after a very judicial consideration of all of the symptoms, including that one known as the Widal reaction; that without the use of this last symptom we will frequently err; that with it we will still err occasionally.

I should like to say a word right here as to Dr. Martin's conception of this slow fever—namely, that it is a post-malarial fever. If there is such a fever following more active malaria, it should be called malarial fever and treated as such, and only confusion can result by inventing a new name for it. If the stomach does not tolerate enough quinin, then give it hypodermically. Even if it is not ended by quinin thus given, I can still see no reason for giving it a new name.

We are not to lose sight of the fact that fever is merely a symptom, and that the term is never to be used without a qualifying adjective which will indicate the cause of the fever. Malarial fever, typhoid fever, slow fever and third fever convey no idea as to the etiology of the symptom fever. To use such terms and to treat a fever on such a basis continually leads to confusion. To fail to recognize a typhoid, however mild the case may be, is to needlessly endanger water supplies and the public health generally, to say nothing of the more indirect results of

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mistaken diagnosis. To fail to diagnose a malarial fever is harmful, not only to the patient in hand, but also through the aid of mosquitoes to add to the general danger of infection.

In addition there remain other causes for continued fever which must be excluded before we are ready to talk slow fever. May not the case be a bacterial endocarditis, leukemia, pernicious anemia, an enteritis away from the colon on the one side and the duodenum on the other, a miliary tuberculosis, syphilis—any one of a dozen or more recognized conditions? When in any given case you have excluded each of these, you may then be justified in saying, "We have in this case a continued fever, the cause of which I cannot find, and therefore for the time we must call it 'X' fever." If it were used under those circumstances, the term would do no harm; but we all know that those are not the circumstances under which it is used, and in consequence its use makes careless diagnosis, and therefore does harm.

Gentlemen, you have typhoid fever in the Delta. The majority of your cases of slow fever are typhoids, and must be handled accordingly. The death rate of your typhoids is about the same as typhoids elsewhere under the same environments. The continued fevers that you have that are not typhoids are symptoms of some of the known diseases. The meteorologic and sociologic conditions of the Delta modify typhoid as you see it, but they do not create a new disease. In view of this fact, blood examination is more imperative than in districts where the symptoms of typhoid are more classic.

Replying to Dr. Krauss, I reiterate that I have used his old communication in no personal sense, but merely as an expression of the views of a certain group of men as to this unknown fever. Had I known in time that those were not his views, I think that I would still have used his article, merely omitting reference to the author and place of appearance of the paper.

In conclusion I wish to say that I lived in this section for many years, that I have practiced medicine in it, and therefore I feel that I have clinical acquaintance with its fevers.

I want to thank Dr. Sutherland, my co-worker, for his share of the work. The initiative was his. He has been enthusiastic, energetic and wise in council; not only has he furnished his own paper, but his judgment has been accepted often in this one. I wish also to thank Drs. Cheek, Alexander, Martin, Sparkman, Scudder, Mathis and Gray for their observations on the course of the cases, their diagnoses, permission to use their cases, and for help wherever we have asked.

Each lawless thought will mar the plan,
Each wasted day will stint the man;
Would'st thou excel? Let purpose run
A thread of gold from sun to sun.

James Buckham.

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THE TREATMENT OF ABORTION.*

BY F. J. RUNYON, M.D.
CLARKSVILLE, TENN.

THE subject assigned me for discussion this evening—The Treatment of Abortion—is one of the most important that will probably come before this society. The serious results which accompany abortion, are not, in my opinion, so frequent as the sequelæ, entailing, as it sometimes does, invalidism from chronic endometritis, inflammatory deposits, diseased tubes and ovaries, peritonitis, etc., or even resulting in death from some of these or from the operation demanded by them.

By the term abortion, as I shall use it today, is meant "the premature casting off of the product of conception before the end of the fourth month." (Thomas).

When is abortion inevitable? This is a question so connected with the subject under discussion that we are compelled to consider it too. It is also often one of the most difficult problems we have to consider. While certain conditions render abortion inevitable, there are many cases that will tax to the utmost the knowledge of the conscientious physician.

Abortion is inevitable—

1. "When the membranes are ruptured.
2. "When the fetus is dead.
3. "When any fetal part is engaged in the cervix." (Auvard).

But it is by no means always easy to ascertain when certain of these conditions exist. Thomas states, "If the os uteri be dilated to such an extent that you can pass your finger through it and touch the presenting fetal ball, it is useless to try to avert the process."

"Uterine exploration when hemorrhage is present during pregnancy is indicated—

1. "When the patient has lost so much blood that we fear the results of further loss.
2. "When a known portion has been expelled and the remainder is retained *in utero.*

* Read before Montgomery Co. Med. Society, Clarksville, Jan. 10, 1902.

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3. "When the ovum is manifestly dead, yet unexpelled." (Jellett, *Dublin Jour. Med. Sci.*, May, 1897).

No amount of hemorrhage of itself signifies inevitable abortion, though this might demand its induction. "Hemorrhage usually precedes pain when abortion results."

Gould and Pyle give the following as denoting "inevitable abortion:"

1. "Hemorrhage profuse and continuous, clotted and dark colored.

2. "Pain, cramp-like and severe.

3. "Cervical canal dilated.

4. "Uterus soft, enlarged; angle between upper and lower uterine segments effaced.

5. "Discharge consists of dark blood, clots and portions of ovum.

6. "Signs of pregnancy present except amenorrhea."

A very sure symptom of impending abortion is a *very* dark discharge of blood from the uterus, usually persistent or recurring; this is usually *very scant* for several days or longer. Sooner or later following this abortion either occurs spontaneously or other symptoms arise which render active interference imperative. Such cases are prone to leave behind some unpleasant sequel, such as a damaged tube or chronic congestion of the pelvic viscera, which invites inflammation if one delays too long.

Having decided that abortion is inevitable, what course shall we pursue? No hard or fast rules can be given here, as abortion occurs in a variety of ways. Of the different ways in which abortion may occur I take the following from Thomas:

1. "There may be a complete emptying of the uterine cavity.

2. "The fetus may be expelled with the amnion and chorion while the decidua vera is left in the uterus, but later coming away in the lochial discharge.

3. "The fetus (and liquor amnii) alone may be expelled, leaving behind (up to the third month) the amnion and chorion.

4. "When utero-gestation is a little further advanced (beginning of the third month on) the fetus and membranes may be expelled and the placenta is left behind.

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In investigating the subject of treatment I find the weight of evidence is against active interference so long as abortion proceeds in a normal way, i.e., hemorrhage, cramp-like pains, and followed in the course of a few minutes to two days by the entire contents of the uterus. Until two and a half months the placenta is unformed and we can usually leave the case to nature; after this time the placenta is the all-important element. Many cases no further advanced than a month or six weeks occur without knowledge of the patient. Yet when we have reason to know or suspect that abortion has occurred, even thus early, we should counsel rest in bed for some days.

When called to see a case of inevitable abortion, if the trouble is just beginning, put the patient to bed, and, if the hemorrhage is at all free, sterilize the parts and tampon with properly prepared gauze or pledgets of cotton. This is the safer and more expedient plan, anyway, if conception is more than two months advanced. Under such circumstances it is safe to leave a patient, removing the tampon in from six to twelve hours. Frequently the uterine contents will come away with the tampon, but, if not, another should be applied after careful preparation of the patient (administering an antiseptic vaginal douche), unless there should be some contraindication, as a rigor, fever or an offensive discharge. After twenty-four to thirty-six hours of expectant treatment, if the uterus has not emptied itself, its contents should be removed with the finger or curette. Of course this should be done under all antiseptic precautions. If the cervix is not already dilated this should always constitute the first step in the operation, because in free drainage is largely dependent the safety of the patient. If the cervix is already dilated or very dilatable, an anesthetic is not usually required.

In using the curette the speculum should always be used and the uterus drawn well down by means of the double tenaculum in the anterior lip. Then introduce a sound to learn the depth of the canal. My preference is for the sharp curette, and the whole surface of the uterus (excepting the cervical canal) should be carefully and thoroughly curetted and the cavity washed out with a hot 2 per cent. carbolic acid solution. If the uterus has been emptied, hemorrhage almost

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certainly stops at once, and no packing should be employed. However, should hemorrhage not cease or the uterus be acutely flexed—thus hindering drainage—an intra-uterine tampon, or a strip of gauze for drainage, should be applied, according to indications. Keep the patient in bed for at least one week.

In cases of abortion which do not come on so acutely, but linger—hemorrhage (usually of very small amount) continuing or continually recurring—the curette (or the finger) should be used to empty the uterus. So should any case beginning with a rigor or fever, or whenever such symptoms arise during the course of an abortion, be treated. The presence of a foul discharge demands the use of the curette, and in such cases the irrigating curette should be used or the intra-uterine douche used later. The douche should be used twice each day till the temperature remains normal for a day or two and until there is no odor from the discharge. Should the temperature not be due to the absorption of putrid material from the uterine cavity, but to other complicating conditions, the douche might prove harmful and should not be given.

In the cases of so-called "missed abortion" nature should be assisted after we have assured ourselves the fetus is dead. Under such circumstances the woman is in constant danger of hemorrhage or of septicemia. I believe the plan of treating incomplete abortion advocated by Anna M. Stuart (*N. Y. Med. Jour.*, Sept. 6, 1896) is well worthy of trial, and I believe it would serve a good purpose here. It consists in packing gauze in the uterine cavity, thus stimulating that organ to contract.

It will be noticed the expectant plan of treatment is here given the preference in the treatment of suitable cases of abortion, as the curette, even in the most skilled hands, is not without danger—numbers of cases of perforation of the uterus having been reported as resulting from its use. It will also be noticed that I have made no mention of any medicine to be given because none is indicated, unless it be an occasional dose of quinin for its oxytoxic effect, except when the cervix is well dilated and the fetal ball (or the placenta) is *well* engaged in the canal, when ergot may prove of service.

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CORRESPONDENCE.

CLASSIFICATION OF THE CONTINUED FEVERS OF THE SOUTH.

Editor Memphis Medical Monthly:

Since the discovery and elaboration of the life history of the malarial hematozoon, and the method of its transmission to man, there can be no more interesting or important subject connected with malaria discussed in this special issue than the classification of the continued fevers of the South.

In the *Phila. Med. Journal* of August 17, 1901, I offered a solution, based on purely clinical grounds, of the vexed question of our Southern fevers. The paper was directed especially to laboratory men, in the hope that they might confirm by chemical and microscopical methods the deduction drawn from bedside study of these cases.

The position was taken that the continued fevers under discussion were due "to lesions of the mucous membranes or of the nervous system produced by the malarial plasmodium, or more likely, to an irritant effect of *plasmodial toxins on the central nervous system*, or yet possibly to both in varying degree in different cases, corresponding to the characteristic regular irregularity of the disease in question," and the term "post-malarial fever" was suggested, as better indicating the etiology and pathology of these cases than any other. That the toxemic (malarial) etiology is much more probable, as indicated above, if not alone responsible, seems proven from the fact that so many of these cases have no nausea nor abdominal tenderness, and have some appetite throughout the course, a thing unlikely were they produced by lesions of mucous membranes.

In the November issue of the MONTHLY Dr. Krauss contributed a valuable paper on the "Occurrence of Leukocytosis and Socalled Dust Granules," in which he brings the strongest confirmatory microscopic proof of this position, without himself accepting it.

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The mere fact of a constant leukocytosis in these particular continued fevers mentioned by Krauss, and the known absence of that condition in typhoid, is in itself a sufficient proof that they do not belong to the latter class, and it is almost incredible that Osler and others could in the face of such testimony as is adduced by Southern writers, so classify them.

May it not be possible that Dr. Krauss's dust granules, which he once thought embryones, are at the other end of their biology, and are fragments of plasmodia, whose ptomains are to blame for the septic fever? Dr. Krauss's statement that "some spreads look like a bursted red corpuscle from which eight to twelve of these bodies seem to be escaping, . . . the similarity of their staining reaction to malarial plasmodia, . . . are present in such great numbers in these cases and are almost totally absent in other blood," would at least point in that direction.

Again quoting from my paper: "This view readily accounts for the great irregularity and mild type of these cases, varying of course with the degree of resistance of each individual, and the amount of original toxic matter absorbed; for the absence of malarial hematozoa in the blood late in the cases, and hence with the failure of quinin to cure. It also accords with the fact that these cases come in at the height of the malarial season, after the system has been for some time under malarial influences. Furthermore, not only the blood tests, but the remittent character of these cases in the beginning, marks them surely paludal; but when we would expect our patient's convalescence, we are confronted with a continuing fever, with no hitherto well defined cause, lasting as long as two or three weeks, and in many cases much longer, and which is readily understood when the toxic nature of the cases is remembered, behaving much as any septic fever does."

Dr. Krauss also points out the late seasonal appearance and septic cause of these fevers, which, taken with the leukocytosis, and other microscopic findings of his enumerated above, would seem to admit of but one logical interpretation, viz.: that the fever is due to a poison, possibly alkaloidal, generated by the Laveran plasmodium. And Dr. Krauss himself says, "That it depends upon a malarial infection is a conclusion hard to get

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away from." Notwithstanding which he continues, "How a sepsis or something akin to it can follow a pure malarial infection, is not clear. We know of no malarial toxin, and the disease cannot be produced except by direct inoculation of the malarial plasmodia itself." I know that the regular forms of malaria cannot be produced without the plasmodium, but has anyone injected the blood serum of post-malarial fever patients during the height of an attack, into man? And if not, how can we know that this fever (which, be it remembered, though due to a primary infection by malarial plasmodia, probably always the estivo-autumnal forms, is strictly speaking a septic fever caused by toxins from these parasites) cannot be transmitted by such inoculations?

In the March issue of the MONTHLY Dr. B. G. Henning mentions the probability of a malarial toxin, but he does not attribute to it etiologic importance, except of typhoid symptoms, and further, that the toxins are generated by plasmodia remaining in spleen, bone marrow and liver, escaping quinin; the continuance of fever and the concomitant symptoms he thinks due to a catarrhal inflammation of the gastro-intestinal tract, produced by the germs in their first invasion. Dr. Henning's paper is certainly a splendid clinical history of typhoid fever, but regarding the name typho-malarial, which he thinks as good as any yet offered, as indicating the *typhoid* state of these patients, it would seem too late now to attach to it other import than the original hybrid pathology of Woodward, even if these typhoid symptoms mentioned by Dr. Henning were a constant feature in these cases. It has been my experience that they, like the rose spots, have been conspicuous by their absence. As pointed out by Dr. Krauss, these cases are differentiated from typhoid by "hunger instead of anorexia, clear intellect, even under great initial prostration, with weak pulse," etc.

I am glad to see that Dr. Henning believes in the possibility of a malarial toxin, however, and his suggestion of glandular plasmodia escaping quinin and aiding in its continuance, I believe a good one, explaining to some extent the fact familiar to all, that upon resuming quinin, after its cessation for a few days, a decided impression is made on the fever.

G. W. PENN, M.D.

Humboldt, Tenn., March 11, 1902.

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Memphis Medical Monthly

Memphis Medical Monthly, established as the *Mississippi Valley Medical Monthly*, 1880
Memphis Lancet, established 1898.

LYCEUM BUILDING, MEMPHIS, TENN.

Subscription Per Annum, One Dollar in Advance.

Official Organ of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis Medical Society, and Yazoo Delta Medical Association.

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SOUTHERN FEVERS.

THE most serious and apparently unsolvable problem that confronts physicians practicing in the valleys of the Mississippi and other Southern rivers is that of the etiology of the continued type or types of fever which are prevalent in these localities during almost the entire year. Whether these fevers be due to malarial infection, are a post-malarial or autoinfection, or are due to infection with the bacillus of typhoid fever, has not as yet been settled to the entire satisfaction of Southern practitioners. Theories there are without number, and the textbook writers of the East have each a solution of the problem to his own contentment, but the practitioners of the region where these fevers prevail in almost endemic form, heed not the dogmas of those who lack the experience of daily contact.

In this issue of the MONTHLY we are fortunate enough to have an opportunity to present to our readers some classic contributions to the subject of Southern fevers, and we hope that the efforts of the investigators now working in this field, of which these papers are a good example, may early arrive at a conclusive solution of the discouraging problem.

Dr. W. A. Evans, of Chicago, formerly a practitioner of the Mississippi Valley, in his splendid paper read before the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, which we have the pleasure of printing in this issue of the MONTHLY, argues for the typhoid nature of this type of

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continued fever. His views are vigorously contested by some exceedingly able Southern practitioners and clinicians, but his study of the subject cannot help having weight with the profession on account of the painstaking care and scientific accuracy with which it has been carried out. Dr. Evans has in his investigations had the collaboration of Dr. H. L. Sutherland, of Rosedale, Miss., an accomplished practitioner who is working in the very midst of a region where this fever is commonest.

We offer no conclusions in this matter, but respectfully submit to our readers the scholarly efforts which comprise the leading features of this issue of the MONTHLY, and leave them to arrive at their own deductions from the elaborate evidence presented.

EDITOR'S NOTES.

THE AMERICAN ASSOCIATION OF UROLOGISTS was organized in New York on February 22, 1902.

THE ARKANSAS STATE MEDICAL SOCIETY will meet at Little Rock, May 14th, 15th and 16th next.

THE MISSISSIPPI STATE MEDICAL SOCIETY will meet at Jackson, on the 16th, 17th and 18th of this month.

THE UNIVERSITY OF PENNSYLVANIA will inaugurate during the coming spring a series of courses for practitioners of medicine.

DR. WILLIAM THOMAS BLACK, of Memphis, was married to Mrs. Flora May Grehan, also of Memphis, on Thursday, March 13, 1902.

THE FARBENFABRIKEN OF ELBERFELD COMPANY announce that the phenacetin patent has been sustained by the United States Circuit Court of Appeals. Infringers will relentlessly be prosecuted to the fullest extent of the law.

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Dr. C. K. Summers, an alumnus of the Memphis Hospital Medical College, was married to Miss Elizabeth Hammond, at Ruleville, Miss., February 9, 1902.

Dr. W. E. Fitch, founder and for many years editor and business manager of the *Georgia Journal of Medicine and Surgery*, has sold his interest in the publication to Dr. St. J. B. Graham.

The Association of Medical Officers of the Army and Navy of the Confederacy will meet in Dallas, Texas, April 22, 1902, at 12 M., under the presidency of Dr. D. D. Saunders, of Memphis.

Messrs. Parke, Davis & Co., of Detroit, Mich., propose to issue four thousand shares of their capital stock, which will be disposed of to the oldest among their employees, thus carrying out the policy of other large corporations of encouraging their employees to become stockholders.

The Mobile Medical and Surgical Journal is the most recent venture in medical journalism that has come to our hands. The journal has a good appearance, and no doubt will attain a due measure of success. It has the best wishes of the Monthly for an unlimited career of usefulness.

Twenty-eight Leading Officers of the Marine Hospital Service, have signed a petition, which has been presented to the Surgeon-General of the Service, protesting against the proposed change in name of the Service to that of National Health Service. Their objections are well put, and deserve careful reading.

The Medical Society of the State of Tennessee will meet in Memphis on the 8th, 9th and 10th of this month, in the ordinary of the Peabody Hotel. This should prove an interesting meeting to the physicians of this section, and we trust that the meeting will be well attended. A rate of one and one-third fare, certificate plan, on all railroads entering the city, has been made to this meeting.

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DR. J. J. KINYOUN, one of the most valuable officers of the United States Marine Hospital Service, and founder of the bacteriological laboratory of the Service, has resigned, and will locate in Philadelphia.

MAJOR W. C. GORGAS, chief sanitary officer of Havana, reports that the city of Havana has been absolutely free from yellow fever from the 28th of September to February 15th, this being usually the worst season for this disease in Cuba. Such a record is something of which the United States Government, and especially the medical department of the Army, may well be very proud.

THE AMERICAN MEDICAL ASSOCIATION will meet at Saratoga Springs, New York, on June 10th, 11th, 12th and 13th next, under the presidency of Dr. Jno. A. Wyeth, of New York. This meeting will undoubtedly be one of the best attended and most interesting that the association has ever held. Saratoga is a delightful place in which to meet, and the occasion will be notable not only for the excellence of the scientific program, but likewise for its many delightful social features. For the accommodation of physicians from this section of the South, the Illinois Central R. R. will run a through sleeper from Memphis to Saratoga without change.

SOCIETY PROCEEDINGS.

MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY.

Stated meeting, February 18, 1902.

The President, Dr. Alfred Moore, in the chair.

Present were: Drs. Alfred Moore, Barton, Krauss, Braun, Brown, Wolff, Black, Cane, Raymond, Winston, Morrow, Battle Malone, McReynolds, Goltman, W. B. Sanford, Rudisill, Crofford, Andrews, Porter, Ellett, Castles, Burns, Henning, Michie, Bell, Venn, Anderson, A. B. Williams, Reilly.

Two Uncommon Cases of Nasal Tumors was the title of a paper by Dr. Richmond McKinney, which, in the absence of the author, was read by Dr. Michie.

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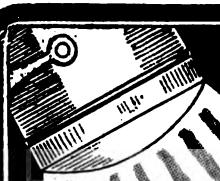

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The first case was one of cyst of the inferior bony turbinal, occurring in a woman between thirty and thirty-five years of age, who complained of a fullness in the right nostril which had existed for some time. The condition occasioned no pain. The growth in her nose had been incised on two different occasions, but nothing other than a little blood followed each of these incisions. Examination revealed an enlargement of the anterior end of the inferior turbinated body. This growth was edematous, sessile, and practically occluded the naris. The tumor was incised, and a thin sero-purulent discharge, about a teaspoonful in quantity, followed the incision. The underlying bone was uncovered and excavated, the interior of this cavity being roughened, showing that degeneration was going on. The cavity of the cyst was freely curretted and cauterized. Recovery was uninterrupted.

The other case was one of cystic fibroma in a boy twelve years of age. This patient had suffered with a stoppage of the right naris for an indefinite period, and had profuse and frequent nose bleed from this side. Examination disclosed a reddish, polypoid tumor about the size of a hazelnut, pedunculated and apparently springing from about the junction of the cribriform plate of the ethmoid with the anterior cartilaginous septum. The tumor was seized with a slender dressing forceps, and twisted loose from its attachment. During the process of removal the growth burst, and discharged a dark, grumous, foul-smelling material, and hemorrhage was very free. After the removal of the tumor its site of implantation was cauterized with the electro-cautery.

In the absence of the other essayist, Dr. D. D. Saunders, Dr. W. B. Burns opened a general discussion on the subject of pneumonia. This was entered into by Drs. Henning, Krauss, Barton, Goltman and Crofford.

The following were elected to membership:

Drs. J. A. Van Horn, R. J. Henderson, W. M. Voorhees, W. C. Duke and S. C. Edwards.

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BOOK REVIEWS.

A MANUAL OF OPHTHALMOSCOPY. For students and general practitioners. By J. E. Jennings, M.D. (Univ. of Penna.), author of "Color-Vision and Color-Blindness," etc.; formerly Clinical Assistant, Royal London Ophthalmic Hospital, London; member of the American Medical Association, etc. With 95 illustrations and 1 colored plate. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. 1902. Large 12mo. $1.25 net.

In offering this work to the student body, the author feels that he is meeting a demand for a manual of opthalmoscopy, adequately illustrated, which will give in small compass, and at slight cost, information heretofore to be obtained only in expensive text-books and atlases. There can be no question but that the expressed purpose of the author has been accomplished in every respect. He has succeeded in preparing a book that will be of particular advantage, not merely to students but also to post-graduates and general practitioners. With the aid of this manual, which is beautifully illustrated and tersely descriptive in its teachings, no one should experience the least difficulty in acquiring insight into the methods of ophthalmoscopy, and of the various histological and pathalogical alterations of the structures of the eye.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumption, etc. In eleven octavo volumes. American, English, German and French authors. Volume VI — Dietotherapy and Food in Health. By Nathan S. Davis, Jr., A.M., M.D., Professor of the Principles and Practice of Medicine in Northwestern University Medical School; Physician to Mercy Hospital and Wesley Hospital, Chicago; Member American Medical Association, etc. Published by P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, 1901. Price for the set complete, $27.50 net.

In this excellent system we have a departure from anything that has previously been attempted in medical book making. It is quite unusual to find a work on therapeutics that has no reference whatsoever to medicine.

The current volume of this system considers the important subject of dietotherapy and food in health, and should therefore be regarded as one of the most valuable in this exceedingly valuable series.

THE AMERICAN YEARBOOK OF MEDICINE AND SURGERY FOR 1902. A yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs and textbooks of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of George M. Gould, A.M., M.D. In two volumes. Volume I, including General Medicine, octavo, 700 pages, illustrated; Volume II, General Surgery, octavo, 684 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902. Per volume: Cloth, $3 net; Half Morocco, $3.75 net.

In the American Yearbook for 1902 the publishers are following the plan that they originated two years ago of issuing the work in two volumes. This renders it less bulky, and much more convenient for reference. In one volume are given extracts on medical progress, and in another those on progress in surgery.

The present issue of the yearbook is fully as complete and as carefully compiled as any of the preceding years, and practitioners and specialists who desire a work that will keep them *en rapport* with the progress of medical science, will find the American Yearbook of Medicine and Surgery to be up to date in every respect.

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MEMPHIS
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ADDRESS.

MEDICAL SOCIETY OF THE STATE OF TENNESSEE*

BY DEERING J. ROBERTS, M.D.
NASHVILLE, TENN.

Gentlemen of the Tennessee State Medical Society:

It is with feelings of deepest gratitude and most sincere appreciation, that I occupy a position tonight, at one time in their lives held by some of the most eminent, capable, reputable and representative members of the medical profession in this great State. A position most enviable, a rank far beyond my humble merits, and which I shall ever regard as the highest honor that could be conferred on me.

We begin with Dr. James Roane, son of one of the earlier Governors of our State, who was elected, and presided at the organization in our capital city, May 5th, 1830, only "to fall a victim to his professional zeal on the 27th of February, 1833," having been engaged day and night for an entire week in his most heroic efforts in battling with an epidemic of cholera then existing. His name is appended to the "Minutes" of our time-honored organization for the years 1830, 1831 and 1832, the vacancy being filled in 1833 by the election of Dr. Ferdinand Stith, of Franklin, who was succeeded in 1834 by the first male white child born where Nashville now stands, Dr. Felix Robertson, a son of Gen. James Robertson, and the first man I met when I arrived in the same city six years later.

* President's Address, Sixty-ninth Annual Meeting, Memphis, April 8, 1902.

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He serving as President for six consecutive years, was succeeded by Dr. Samuel Hogg, who served during the years 1840 and 1841; and in 1842, being too ill to attend the meeting, the Vice-President called the society to order; and on stating the unwelcome fact, appropriate action was taken by the society in the form of resolutions of sympathy. Dr. Hogg represented his people in both houses of the State General Assembly, and at one time was a member of Congress. He was born in Caswell County, N. C., April 18th, 1873, and died May 28th, 1842. He was one of the most noted medical men of this State. His father was a major in the Revolution, and it was his mother who made the famous reply to the Tory, Col. Tarleton, on his expressing a desire to see Gen. Washington, by saying: "You might have done so had you looked back at the battle of Cowpens!"

Dr. Hogg, having obtained his medical education, came with the tide of emigration that followed Gen. Robertson and his band, first settling on the banks of the Cumberland, and subsequently moving to Lebanon; in 1812 he accepted the position of surgeon of a regiment, and descending the Cumberland, Ohio, and Mississippi rivers, participated in Jackson's great battle at New Orleans. In 1843, Dr. Lunsford P. Yandell, one of the organic members of the society, but who had moved to Louisville, came by appointment and delivered a memorial address on his life and character before the society, which with appropriate resolutions adopted, was by order of the society published.

He was succeeded in the Presidential office by the Vice-President, my revered teacher and friend in later years, Dr. A. H. Buchanan, one of the most profound pathologists, correct clinicians and able surgeons of his day. He was one of the most devoted and earnest members in the primary organization and early development of this society, and its interest and welfare were ever close to his heart until the day of his death on June 20th, 1863, at the age of 55 years, while an exile from home, at Stone Mountain, Ga. Originally coming from Winchester, Va., he first taught school in a log cabin in East Tennessee; subsequently coming to Columbia, he commenced the study of medicine while still engaged in teaching; and at the

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end of the first course of lectures he attended in the University of Pennsylvania, asked the faculty to grant him the most rigid examination, on account of his financial inability to attend a second course, that being one of the essential requirements. Impressed with his earnestness and sincerity, and recognizing his merit, it was finally granted him upon the condition that he would not reveal the fact until after the death of all who signed his diploma. As a teacher he had few equals if ever a superior; with a gifted flow of language and lucidity of thought, his eloquence was at times sublime; and in his earlier years he was most highly commended by his great political prototype, Henry Clay, of Kentucky. He held the office eight years, from 1842, until his successor, Dr. John W. Richardson, of Rutherford County, was elected in 1850. Dr. Richardson was the eminent sire of the present able leader of the Democratic party in the National House of Representatives. He received his degree in medicine under the tutelage of Dr. Benjamin W. Dudley, from "Old Transylvania" in its palmiest days, from whose portals passed out into their active life-work in medicine and surgery some of the most devoted, sincere and competent practitioners of this great interior valley made illustrious by the pen of Daniel Drake, if by nothing else.

Dr. Richardson served his State in both houses of the General Assembly, but declined a proposition that would have most certainly placed him in the National Legislature, in which his son has been so important and striking a figure in later years. He practiced in the same community until the day of his death, November 17th, 1872. On one occasion when quite ill, he resisted the importunities of his faithful wife, when sent for to see a patient, by saying: "*I must go*, for I know he is *poor!*"

Although Dr. Ferdinand Stith, of Franklin, only occupied the chair one year, he was an active and earnest member for a number of years. In 1842, as Dean of the Board of Censors for Middle Tennessee, he reported having licensed an applicant, a Mr. Osborne, who as Dr. Thomas C. Osborne made an enviable name as a physician in his native State, in Alabama, and in Texas. He subsequently obtained the degree of M.D. in this city at the Memphis Medical College, and is yet living at Cle-

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burne, Tex., at a ripe old age, universally loved and esteemed by all who now, or have ever known him.

Dr. Stith lived to an advanced age, and I remember to have met him and his good wife, when a 12-year-old boy and on a visit to an uncle, then practicing medicine in Williamson County. Dr. Stith was also universally loved and esteemed by a host of men, women and children as "Our Doctor."

This completes the roster of Presidents for the first twenty years of the society's existence, in which time, we find from looking over the original minutes much interesting and progressive work was done. At the organic meeting in 1830, Dr. Charles Caldwell, of Transylvania University, was present by invitation, and was elected an honorary member, which he accepted in a most courteous manner in a letter to the Secretary, which we find incorporated in the minutes.

In 1831, Dr. Henry Frost, of Charleston, S. C., was elected an honorary member, as was Dr. Daniel Drake and Dr. Benjamin W. Dudley, the two first acknowledging in most grateful terms their high appreciation of the honor conferred; of the latter's acceptance, we have no record.

Dr. Lunsford P. Yandell, the elder, while a resident of Murfreesboro at the time of its organization, subsequently while residing in Louisville, was also made an honorary member, and in addition to the occasion already mentioned when he made a special visit to the society to deliver his memorial address on the life and work of Dr. Samuel Hogg, also by special invitation delivered an address at the Reformed Baptist Church on the afternoon of May 4th, 1841; the society adjourning from the city hall in which its meeting was being held to the church, the citizens being invited and a large number availing themselves of the opportunity. In 1850 he was again invited to address the society, by resolution offered by the courteous, gentlemanly and in every sense of the word, true physician, Dr. B. W. Avent, who gave up his life in this city nearly a third of a century later, in his heroic efforts in behalf of his fellow-man.

The first action of the society was to secure a charter of incorporation, which was granted by the General Assembly of our State by an act passed January 9, 1830, and is signed by

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Ephraim H. Foster, Speaker of the House, and Joel Walker, Speaker of the Senate. This charter was to extend for thirty years, and expired by limitation in 1860, its further extension being prevented by the terrible storm cloud of civil war looming up on our northern horizon. The preamble to this act of incorporation will bear reproduction here, and I am gratified to state that proper steps will be suggested by an able associate and predecessor in this chair to secure another charter which has now become indispensably necessary, and his suggestion I most sincerely hope will meet with your most careful consideration. The preamble is as follows:

"As health is universally acknowledged to be essentially necessary to the happiness and prosperity of society, and its recovery and preservation are essentially connected with an intimate acquaintance with the animal economy, and the properties and effects of medicines, and as institutions formed on liberal principles, and patronized by law, are eminently calculated to encourage the propagation and dissemination of such knowledge"; therefore, be it enacted, etc.

This act enabled and empowered the society to license individuals to practice medicine, through a board of censors, seven elected from each grand division of the State, and provided the method of examination and fee for the same. It also empowered the society to levy a tax on the members for the necessary expenses of the society, and to punish by fine not exceeding $50 any of the members for dereliction of duty; other features of a general character for its government being included. The reading of the original signatures to this charter I know would be of more than passing interest to some of you, but I will limit myself to mentioning those residing at that time in the then somewhat sparsely settled portion of the State known as the Western District, with the names of the counties then conposing it:

Carroll County—Robert Nicholson, James Henderson and Scott W. Bell.

Gibson County—John H. Crisp and Wm. W. Lea.

Dyer County—John Degraffenreid and Edward Burchett.

Obion County—William Wilkerson.

Weakley County—Pulaski P. Bell and Thomas Edwards.

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Henry County—T. K. Porter, Francis Price and Edward R. Anderson.

Madison County—James Young, Robert Fenner and Dr. Loring.

Henderson County—John H. Wilson and Dr. McKissack.

Haywood County—Allen I. Barbee.

McNairy County—Dr. Young.

Hardeman County—Daniel M. Gwinn and David Brown.

Fayette County—Drs. Williams and Higgason.

Shelby County—Drs. Russell and Christian.

Tipton County—J. A. Greene and Charles G. Fesbee.

Lawrence, Wayne, Hardin, Humphreys and Perry are included in the list of counties of the Western District, possibly to add to its numerical strength, Dr. Daniel S. Saunders then residing in Perry county.

In the Eastern and Middle Divisions we find a large number of names, those sections being more populous, but all through the list I find names of men who occupied a high rank indeed in the communities in which they resided as physicians, as gentlemen and citizens of high standing.

In Davidson County, the list is Samuel Hogg, Jas. Roane, Felix Robertson, R. A. Higginbotham, Boyd NcNairy, James M. Walton, Charles Pugsley, John Waters, John Maxey and James Overton.

In Maury County, George M. Campbell, Thomas Brown, D. N. Sanson, H. E. Turner, John B. Hayes, John M. C. Gimpsey and S. R. Gordon.

Rutherford County—James Maney, W. R. Rucker, Lunsford P. Yandell, F. E. Becton and Samuel Walker.

Williamson County—W. G. Dickerson, Ed. Breathitt, F. Stith and William S. Webb.

In Sumner County I find with others, Elmore Douglass, James A. Blackmore and David M. Porter.

Robertson County—Archibald Thomas, Christian Allen and T. I. Watson.

Montgomery County—J. H. Marable and others.

Lincoln County—Allen C. Gillespie, William Bonner and others.

Dickson County—Henry Marable.

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In fact so many of these names are connected with the best interests of the State in their day, emphatically "historic" names, that I can with reluctance desist from taxing you with a full recital and would suggest the propriety of placing the entire list in the hands of the publication committee to be reproduced on the printed page of our *Transactions.*

I would that I had the time to go into a full detailed review of the records of the first twenty years, which are now in my possession, and which are well worthy of publication in full. However, I shall ask your permission, gentlemen of the society, to place this historic volume in the State Library at Nashville, in the capitol, with the understanding, which I have secured from the present librarian, that a proper case shall be procured for the preservation of so valuable a historical relic.

The following members constituted a committee to report a code of by-laws, which include a "code of ethics," and which were adopted at this organic meeting: Drs. Alex. McKinney, of East Tennessee; Boyd McNairy, Wallace Estill, F. Stith and John B. Hayes, of Middle, and James Young, of West Tennessee.

From the by-laws I quote the following:

"*Resolved,* That it is the deliberate opinion of this society that ardent spirits are rarely useful as a medicine, and that the habitual use is productive of the most lamentable consequences to the human frame, such as derangements of the vital organs, causing a short and miserable existence, and still more miserable death, and, therefore, be it resolved, that this society urgently recommend to their fellow-citizens a total abstinence from ardent spirits, except in cases prescribed by physicians."

The second article of the code of ethics is also along the same lines, and reads: "The strict observance of temperance cannot be too strongly inculcated in the minds of practitioners of medicine and surgery, a clear and vigorous intellect and steady hand being absolutely necessary to the successful practice of these branches of medical science."

In looking through these minutes, written by the hands of men long since still, some of whom I distinctly remember to have seen in the flesh in my boyhood days, I find that fines were assessed on various members in sums varying from 1 to

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2 and 5 and even $20, for failing to deliver addresses, or submit essays on subjects assigned, or to make reports on special matters, the society being empowered to "collect said fines by law" under the charter of incorporation. The uniform assessment of one dollar each session for the ordinary expenses seems to have prevailed throughout a number of years, which was later raised to two dollars per annum. While the minutes of the meetings were published in pamphlet form, as I find from bills audited, except on special occasions the papers, essays and clinical reports were left to the disposal of the writers to publish in some medical periodical; in certain instances of more than ordinary note, a special publication is mentioned with the request of the society as indicated by a vote of the members. These papers will be found in the periodical literature of that day and time. This course having been followed, according to my recollection, until the early part of the 70's; and the *Nashville Journal of Medicine and Surgery* is rich in the contributions from this source during the entire time from its first number so long as its fortunes and destiny were controlled by the "Sage of Swallow Barn," he being a most active and devoted member of the society from the day he came from our sister commonwealth and became a citizen of this State, until he entered peacefully into that rest so well earned by a true and faithful follower of his grand exemplars St. Luke and St. Paul. Like the "beloved physician" he was not only most faithful to his trust as a physician, but also zealous as a rigidly correct, conscientious and critical reporter.

At the meeting in 1831, the society accepted an invitation from Governor Carroll to visit the State penitentiary, then our most prominent public building, and quite new, which has entertained quite a number of visitors from all parts of the State in subsequent years, the society meeting at the court house at 3 P. M., and proceeding there in procession.

At this meeting also, the sum of $50 was offered for the best essay to be delivered at the succeeding meeting. At this meeting a committee was appointed to design a medal; and while their labors were not effectual in a strict sense, we have resulting therefrom, the seal of the society adopted in 1841, ten years later; and which I had the good fortune and pleas

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ure of rescuing from a mass of refuse in an old printing office, aye, from the "hell box," in the vernacular of the "printer's devil," the year I became a member of the society, 1875; and it has adorned the title page of our *Transactions* every year since.

In 1832, a committee was appointed to draft a memorial asking the Legislature to repeal the existing statutes "in regard to exhumation." This met with the fate of similar action of subsequent days, by reason of a want of *thorough* organization of the profession throughout the State. Need I ask you to bear this in mind?

At this meeting Girard Troost was appointed orator for the succeeding year, and Dr. David McIntosh, of Knoxville, Dr. F. Stith, of Franklin, and Dr. Alex. Jackson, of Paris, to read essays on the medical topography and diseases of their respective districts.

Deeply interesting to, and revered as these "minutes" by me, I feel that I must not take up too much of your time in reference thereto; and will briefly mention a few striking facts among the occurrences of these two decades. Aye, time admonishes me that I must pass on with but a cursory glance at this "holy ground!" An orator for each meeting, and essays on diseases and medical topography of districts, counties and localities were an important feature of these earlier days, Dr. James Overton receiving a special vote of thanks for his oration on "Spontaneous Combustion" in 1835.

Our present system of having members present at any meeting registering in person and in their own handwriting having been established at the first meeting was faithfully carried out through all these twenty years. The essay of Dr. Stith on cholera, at the session of 1838, is thus mentioned after the statement that it was ordered published with the proceedings: "The very peculiar notions expressed by the author in the above essay gave rise to some animated discussion among the members." Yes, Doctors differed in that day, as well as in ours.

In 1839, I find the following adopted as a schedule of "Fines:" For failure to deliver oration, $25; for failure to read topographical report, $10; failing to report a case when appointed, $2; and for failing to attend meeting, $5.

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Although vaccination was introduced into America by Waterhouse in 1800, and was extended throughout the Southern States by the aid of President Jefferson, we find that in 1838 Dr. Sylvanus Fansher, of Saulsbury, Conn., sending some vaccine virus from the vaccine institution at that place, gave rise to the following resolution offered by Dr. Stith: "Resolved, that the President distribute the vaccine matter to some individual in Nashville, Franklin, Clarksville, Columbia and Murfreesboro, from these points to be again distributed by the receiver." A vote of thanks was tendered Dr. Fansher at the meeting held the following year.

A prize for the best essay on some medical subject was again offered in 1839, and four essays were submitted in 1841, the prize being awarded to Dr. Lunsford P. Yandell, of Louisville Ky.

In 1843 Dr. Esselman reported a case of Tracheotomy with Recovery, and a Successful Extirpation of the Uterus for Chronic Inversion. How well I remember the unpleasant notoriety that stuck to this earnest student and able surgeon of his day as "one who cut open women! Yes, and took their insides out!" Little did I think in my earlier days, that our language and the very dictionaries thereof would have to submit to "expansion" at the hands of the numerous abdominal surgeons of today.

In 1843 an assessment of $2 was made on the members to "establish a museum of pathological anatomy in Nashville," the members being invited to present specimens. It is almost needless to say that this resolution was offered by Dr. A. H. Buchanan, the President.

The Legislature was also memoralized in the interest of the study of anatomy, to repeal or modify the laws making the "taking of a dead body a felony." In 1844, about one dozen pathological specimens were presented to the museum by various members, and the assessment was rescinded, the surplus in the treasury to be thereafter devoted to this museum; other specimens being presented at succeeding meetings. A committee of twelve were appointed to attend the experiments in animal magnetism by Dr. Stith, and make report. The oration this year was delivered at the First Presbyterian

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Church, by Dr. Robards, of Columbia, to which the public was invited, his subject being "The Importance of the Government Authorities Bestowing More Protection and Encouragement to Medical Science."

At the meeting in 1845, Dr. J. E. Manlove, of Davidson County, reported a "Case of Gastrotomy" which was resorted to for the relief of obstruction in the bowels, terminating in artificial anus, which eventually healed without a surgical operation, the patient being present for examination by the members of the society; Dr. Richardson offering a resolution which was adopted, "that the report be presented to the editor of the *Boston Medical and Surgical Journal* for publication."

At this meeting, Dr. Josiah Stout reported that the committee appointed last year had not had sufficient opportunities to witness the experiments in Mesmerism, and would be unable to make a satisfactory report, and asked for further time, which was granted.

At a called meeting, held April 4th, 1846, the following committee were appointed delegates to a National Convention to be held in New York on the first Tuesday in May following, which convention was the organic meeting of the American Medical Association. The committee was Drs. Robert Martin, W. A. Cheatham, B. W. Avent, J. B. Hayes and G. A. J. Mayfield, of Middle; Wyatt Christian, H. R. Robards and Jackson, of West; and Pride, Ramsey, Cooke and Deaderick, of East Tennessee; also it was resolved and adopted "that any member who might be present at the convention should be authorized to represent the society."

At the regular meeting held one month later, the prize essay committee awarded the prize to Dr. W. L. Sutton, of Georgetown, Ky., and it was requested that it be published in the *Louisville Medical Journal.*

At a called meeting held March 25th, 1847, Dr. A. H. Buchanan, Josiah W. Stout, B. W. Avent, P. Martin, John B. Hayes and A. W. Nelson were appointed as delegates to the American Medical Association.

At the meeting in 1850, Dr. J. W. Richardson, the President, made a report showing the Value of Nitrate of Silver

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Injections in Epidemic Dysentery. Thursday evening, April 4th, he delivered his annual address in the Methodist Church at Murfreesboro, the annual session being held in that town that year, and the public were invited to attend.

Although these old records written by the hands of the various secretaries are most interesting to me, I feel that I must not tax your patience longer in dwelling on them. By reference to incomplete files of the *Nashville Journal of Medicine and Surgery*, up to the time of our civil war, I find also much important historical data, that have a bearing upon the duties of the hour, and I will trespass farther upon your indulgence by brief allusion thereto, with a somewhat lengthy quotation from the annual address of Dr. Felix Robertson, who was again President in 1854 and 1855. In this annual address he gives some very important details of the "pioneer physicians." From it I quote "It appears that the pioneers of the Cumberland Valley did not think it necessary, or failed to be able to enroll in their little band any members of the learned professions of divinity, law, or physics. About the first of April, seventy-five years ago," said this "father in Israel," "the families from the Holston landed at the Bluff, now Nashville. On the 11th of January following, they had evidence that the aid of surgery might be useful to them. On that day he who now addresses you was born, and David Hood, in passing from the lower to the upper fort, was fired on by the Indians in ambush at the Sulphur Spring, in the northern part of the settlement. He was pierced by three balls, and fell on his face, apparently dead. The Indians rushed upon him and scalped him, and stamped upon the back of his neck to dislocate it, and left him, believing he was dead. He lay perfectly still for a long time, as it seemed to him, and, when he believed they had gone, he cautiously peeped about, and could not see them. He then got up and slowly wended his way toward the upper fort, a most pitiable looking object, as you may imagine; but what must have been his horror when getting near the top of the bank, he saw the whole company on the hill but a few steps from him. He said he saw their white teeth as they laughed outright at his strange figure. He turned and toddled back as fast as his

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little strength enabled him, and after passing down the ravine a little way, his strength entirely failed him, and he crept into the brushwood, and lay there until men went out from the forts and found him, and conveyed him in. My father reached home late that night from a trip into Kentucky, and early next morning went in to see Hood, expecting to find him, if not dead, a very forlorn case. On inquiring of David how he was, he replied, 'Not dead yet, and I believe I would get well if I had half a chance;' my father told him he should have a whole chance; and David did get well and lived to a good old age. My father had seen many persons who were scalped in East Tennessee, and had there learned from a traveling French surgeon how to treat them. This was to perforate the outer plate of the skull with a shoemaker's awl over the whole naked surface, making the perforations pretty close together. Through these perforations, granulations sprang up, and gradually spreading, finally all uniting and forming a covering to the denuded skull, before it should die and exfoliate, and thus expose the brain. I am sorry that I cannot recollect the name of the French surgeon who introduced the practice, for he deserves to have his name immortalized for the great boon he conferred on the frontier settlers of that day." "This operation," continued the venerable patriarch, "became in time, so common, that there were persons in every fort who performed it. They appeared to generally understand the proper management of gunshot wounds, for I expect no wounded ever recovered better than those in this country. As to disease, there was very little of that among the settlers for some years, and that was generally of the intermittent types of fever. This they soon relieved by purging pretty freely with white walnut pills, and then taking freely of a decoction of dogwood bark." He farther goes on to narrate incidents in the lives of the earliest medical men who came out and joined the settlement, the first one being a Dr. James White, a graduate in divinity, law and medicine from St. Omars, then in the zenith of its fame, who came out in 1784. Dr. White purchased 6000 acres of land north of the city, now known as White's Bend. He afterward moved to Attakapas Parish, La., and his son, Edmund D. White, was

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Governor of Louisiana, and United States Senator. Other incidents and biographical sketches make up the annual address of this President of the society, all of which are as interesting in their reading as the most attractive romance. The venerable President was by resolution not only requested to furnish a copy of his address for publication, which fortunately was done, and it is to be found in the *Nashville Journal of Medicine and Surgery* for June, 1855, but was also requested to write out the medical history of the times immediately within his own observation. It is greatly to be regretted that his advanced age prevented his doing this, although we find that he lived until July, 1865, ten years later.

No more interesting pages of the early history of our State are extant than this address of this grand type of the physician. How well do I remember him, as he walked about the streets of our capital city in the years immediately preceding the great war between the States. Tall, of commanding presence, somewhat muscular frame, well proportioned, but a little bowed with age, with his long silvery locks beneath a wide-brimmed hat, swallow-tailed blue coat with bright brass buttons, his gold-headed cane, his mildly beaming eyes, his face bronzed with the winds blowing through those primeval forests in his early youth, he was my highest ideal of a true physician and a gentleman of the "old school."

Drs. Bowling, Maddin, Porter, Foster and Lindesly were appointed delegates to the A. M. A., at this meeting in 1855.

Dr. E. B. Haskin, of Clarksville, succeeded Dr. Robertson. He was a Virginian by birth, and received his medical tutelage at Transylvania, and was granted an honorary degree by his *alma mater* on account of a very graphic description of an invasion of Clarksville by Asiatic cholera. He was the first Professor of Practice and Principles of Medicine in Shelby Medical College, a most excellent and well appointed school established in Nashville a few years before the civil war, and which succumbed to its destructive influences. This school was named after and in honor of Dr. John Shelby, another pioneer and faithful worker in the early years of our society, and for a number of years its Secretary. As an army surgeon in the Creek war, under Jackson, he lost an eye. With a good

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classical education, and his degree from the University of Pennsylvania, he held a high rank in the estimation of his people. He died in Nashville, May 15, 1859, Dr. Haskins preceding him a little more than a year, dying April 14, 1858. Both were men of sterling integrity, talented and discriminating judgment.

In 1857, Dr. Charles K. Winston; in 1858, Dr. John P. Ford, and in 1859 and 1860, Dr. Winston again, occupied the chair as President. Both of these gentlemen were among the ablest, most respected and esteemed practitioners and teachers of their day in Nashville, and I know are remembered by some of those now present, who, I am confident, would most heartily endorse the most eloquent and touching eulogium that could be uttered by a far abler tongue than mine.

In 1861 the society met in Murfreesboro, and Dr. B. W. Avent was elected President, of whom it is needless for me to say anything in this city, which he, in after years, graced and honored with his presence, yielding up his life, a most noble sacrifice, on the altar of humanity in the last terrible epidemic of yellow fever that scourged this city. In 1866 the society held its next meeting, pursuant to a call of its President, Dr. Avent; other meetings having been prevented by the civil war.

In 1860 Dr. Foster suggested that the society might be improved by adopting the recommendation of the National Association, that State societies should become representative bodies, which should be to the county societies what the Association was to the country at large. On the day following, April 4th, after some discussion and a report from a committee appointed to suggest amendments to the by-laws, the following offered by Dr. W. K. Bowling was adopted:

"Art. 10. The society shall be composed of delegates from county societies, life members and members by invitation."

Also, a resolution offered by Dr. Foster, constituting the officers of the society a committee to report as far as possible through a circular, the present change in the organization of the society, and advise through the same means the propriety and necessity of speedy organizations of county societies, upon the plan proposed by the American Medical Society.

I shall not take up your time farther with a citation of the

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eminent members of the society who have presided over its destinies in the post-bellum days, limiting myself to the statement that it is a high honor indeed; and one that I greatly lack words to express my full appreciation of your kindness in choosing me to succeed such able, highly esteemed and profoundly respected members as Drs. J. D. Winston, J. E. Manlove, the two Eves, Thomas Lipscomb, the venerable, amiable and most lovable Thomas L. Maddin, the handsome mayor of Clarksville, whose ancestors were among its founders over seventy years ago, to say nothing of Dr. Avent, who was again called to the chair the year I became a member, when your father, Dr. Murfree, was President.* I well remember, as though it were but yesterday, when his bosom seeming to heave and swell with emotion, he said: "And today, I feel proud to stand before you as the chief officer of the Tennessee Medical Society." Those able colleagues and successors whom you in this city know so well, Drs. G. B. Thornton and D. D. Saunders and their kindly, genial and able colleague, the lamented F. L. Sim, including in the list from this section of the State who yet survive such efficient and able members as Drs. T. K. Powell, G. C. Savage and T. J. Happel, have made the position I now hold one of the highest honor.

This society, older than the American Medical Association by more than a decade and a half, has ever had a prominent voice in the councils of that truly representative organization from the day of its birth, when we were most ably represented. Three of our members have been elected President of the national organization, as three of our citizens have been President of this great republic. Right well has this society kept pace with all that was best in our grand and glorious State. Quite a number of our members have been Vice-Presidents of the national association, and but few if any years have passed when it did not have one or more representatives either as chairman or secretary of important sections, on the judicial council, or on its more important committees; and the volumes of transactions and the association journal have received rich contributions from our associates and predecessors; the

* Dr. J. B. Murfree, Jr., a First Vice-President, being in the chair at time of delivery of this address.

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most important position of President of the Board of Trustees is now held by a former President of this society, who previously serving as Vice-President of the association, was assigned to this important duty.

Yes, gentlemen, you have indeed a rich heritage of which you may well be proud, and it is incumbent on you to maintain and cherish it, and to uphold it in that high degree of estimation accorded it in the past by the medical profession of this great nation. Membership in this society is something to be prized most highly. In my personal knowledge of the medical men of this State, going back for more than a full half-century, forty-two years an active member of the medical profession, I can well recall the fact, which cannot be controverted, that the most prominent medical men in the State, those most highly esteemed at home and abroad, have all been active and earnest members of this society. It is highly incumbent on you, then, who regard the profession of your choice as worthy of your best efforts, your most untiring devotion, those of you who would rise to eminence and ability in doing good to your fellow-man, to look well to the perpetuation of the existence and the upholding of the standard of this organization, which has attained so lofty and enviable a record by the labors of the best men of their day, and by your most profound thought and sincerity of action to strive most earnestly, zealously, with harmony, and most careful consideration for its best interests.

It is needless that I attempt any argument in behalf of organization; suffice it to say, that the better and stronger it is made, the better it will be for all—not only yourselves as practitioners of medicine, surgery, or any of the specialties; but better, aye, far better for those who put their trust in you, and confide to your care the health and lives of themselves and of those they hold most dear. Need I cite the old familiar example of the case with which a single twig is broken, in comparison with the strength of a well organized bundle? A single strand of Manila hemp while possessing a certain degree of strength, is as nothing to the inherent tensile power of a well arranged cable!

When we come to consider organization, the necessity for

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its greatest perfection is unquestioned. Yet, the manner and method are of the highest importance. Take that representative body, our national organization; I believe that as a body it has in the past and now does represent the combined knowledge of the ablest in our profession. It has made certain suggestions. These have been carefully considered by members of your own Judicial Council, members of this society who have been selected in the past by your associates, your predecessors or yourselves to preside over the welfare of this society; men who from the position they have occupied on the floor and in the chair have evidenced their loving devotion to, and earnest and sincere interest in its welfare, who will submit their recommendations; which I most sincerely hope will meet with your most careful consideration and calmest thought. Judicious criticism they can and will honestly and sincerely invite, and you will find them each and every one only most ready to accept any suggestion that is demonstrable of any beneficial results whatever; yet, I must implore you, *each and every one*, not to resort to objection for objection's sake. We are none of us infallible in our judgment, and this is neither the time nor place for caviling, or straining at imaginary possibilities. It is for you to emulate on this occasion the precept of a fraternal and benevolent order which tradition and history claim to have originated in the days of king Solomon, and earnestly endeavor and strive as to who can "best work and best agree" in the discharge of the important duties of this meeting. Its importance, its successful results, depend to a great extent upon one idea, aye, one single word—harmony. Permit me to use as an exhortation a quotation once used by the Rt. Rev. Bishop Pierce of Georgia: "May you in your action on this occasion emulate those in the day to come," when the one song of "Peace on earth and glory in the highest" shall employ all nations; and

> "The dwellers in the vales and on the rocks
> Shout to each other, and the mountain tops
> From distant mountains catch the flying joy."

Individualism in scientific work is good in its way, and as exciting emulation and stimulating worthy ambition is most excellent; but organized labor in any field, and unity of action will yield more beneficent, material, and efficient results. See

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the ever rolling stream of history as it has rushed onward ever increasing in volume and momentum, showing how combination after combination has been formed to secure the highest development. Gradually the individual has withered and dwindled, and the world has become more and more as the family, the tribe, the city, the nation, the empire, each forming in turn the successive terms of the series and becoming more powerful, more effective, in the process of the world's development.

I am not a pessimist. I do not believe that everything has been retrogressive, and that other days were better days. I have seen three generations of doctors in this State. One has passed entirely away; of another, there are a few standing here and there, and they too will soon be gone. A new generation—young men—are the controlling spirits to-day, and I believe they are superior to those I first knew. They have had better advantages, better opportunities; the work done by their predecessors has enabled them to accomplish more in the same time. The statistics of the last census show that the lives of the American people have been lengthened, and that the proportion of deaths to population have decreased nearly 10 per cent.; the average longevity of an American citizen was 38.2 years for decade ending 1900, as compared with 31.1 in 1890. Seven years added to the span of human life in the last ten years—as long as Jacob worked and toiled for the masterpiece of the divine builder and designer, man's best counterpart, that which ennobles and expands his nature, and in which he sees himself and is multiplied—a wife and companion. Only think of the mortality in this city for the year 1850, when it had a population of only 8761—the 2392 colored people cared for with the highest degree of skill and assiduity, well fed, well clothed, and yet the mortality of the whole was 1 in 25, or 40 per 1000 per annum, or 4 per cent. With a population of 102,320, in 1900, over one-third colored, with their vices, their reckless disregard of hygienic rules, it was but 20.40 per 1000 for that year, and only 17.50 per 1000 for the last year. Compare 2 per cent. with 4 per cent. Is there not a better organization of the profession now than half a century ago? In any of our courts of justice the evidence

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of two credible witnesses establishes a fact unless controverted by predominance of testimony to the contrary. I rest this part of my argument here.

The modern community of the higher races carries within itself the prophylactic against decay. It is the unselfish ideal of the future, of times and ends beyond the present. Man has not only an interest in the past and present, but a far greater one in the future. It will prove most ruinous not only to the individual but to the community as well, to sit down in the selfish enjoyment of the present, so largely due to the developments and acquirements of the past. Having received so much from the past, we owe a debt to the future. Shall we calmly content ourselves with the sordid enjoyment of the hour like a cotton-field mule in a canebrake, taking no pride in ancestry—having no hope in posterity? Can one ask, "Why shall I do anything for posterity?—what has posterity done for me?" Again and again such selfishness has seemed to prevail, but in the moment of prevailing it has perished. To say, "Let us eat and drink, for tomorrow we die," is indeed to die on the morrow, for moral suicide is followed by physical death. As Aristotle said of the Spartans, "They prospered while they fought for victory; they perished when they had achieved it." As Lord Roseberry has recently put it: "The nation which is content, is lost." Thank God that our present code of ethics inculcates ideas and principles most free and utterly devoid of sordid selfishness, as does that *older* code adopted by this society more than threescore years and ten ago!

And now a few words as to the method of organization. Shall I quote from my distinguished friend who has spent the best years of his life in this city, who stood so heroically at his post in its darkest of all dark hours, when it seemed a very charnel-house? Aye, the words of ex-president G. B. Thornton, who has seen no less than forty-two of his heroic co-laborers lay down their lives on the sacrificial altar of duty and love for humanity, in a single epidemic season in this city. The list will be found entire in our *Transactions* for 1879, and is headed by that noblest Roman of them all, Dr. B. W. Avent. His words are most timely as uttered in his

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annual address in this city in 1882. "As each recurring year adds to the membership of this society, it is but fair to assume that its influence will be increased in corresponding ratio. * * * A State society should include within its membership the whole profession in the State, and that membership should be a guarantee of proper professional recognition anywhere in the world."

From the presidential address of his grand and gifted co-laborer, Dr. D. D. Saunders, one who stood by his side faithfully laboring in sad and gloomy hours in the great cause of humanity, delivered in our capital city three years later, I quote: "There is a great want of thorough organization and hearty co-operation in our State profession which renders it powerless to help itself or exercise any effective influence on State legislation pertaining to medical matters. Everything in this line has to be done by individuals, and not as a profession, and hence the task is herculean, and the entire burthen falls upon a few willing hands and brave hearts. But without concert of action and thorough organization little can be accomplished; in military parlance 'the route step breaks no bridges.' This should not be so, and can be remedied only by the organization of live county medical societies in every county in the State. I would suggest that a committee be appointed, consisting of an active, good member from each of the ninety-six counties in the State, whose business it should be to see that a county society is organized in his county."

These words of these two eminent predecessors are most worthy of your consideration. Notwithstanding since that day much has been accomplished by such organization as we have had, how much more would have been attained if their wise suggestions had been faithfully carried out.

In 1875 a new constitution and by-laws were adopted, and although not a member of the society when they were formulated, I had the honor of rendering some service in this to my old teacher and friend, Dr. J. Berrien Lindsley, to whom was entrusted the duty of preparation. The most important features are to be found in Articles III and V, having relation to membership and county societies. It is greatly to be regretted, in my humble opinion, that at subsequent meetings these

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features were to a great extent emasculated by changes and alterations in Article III; the provisions as to Article V yet stand and with but little modification can readily be adapted to the needs of this day, and the suggestions of the American Medical Association. It was with possibly a wholesome fear that the numerical strength of the State society would be impaired if the provisions of Article III had been rigidly enforced, and hence they were modified and altered from time to time, and have at last been almost entirely eliminated. In my judgment, then and now, there would have been a temporary loss of numerical strength in the State society for a few years; but I candidly and honestly believe that it would eventually have been far stronger numerically and in every way.

In the *Transactions* for last year you will find 14 county and local societies as in affiliation with the State society. By sending out a letter to a regular member of the profession in each county in the State in February last, enclosing a self-addressed postal card for reply, most all of which were returned, I find that we have organized and in active working order, 21 county societies, nearly all of which are in affiliation with the State society. From these postals, which give the name as requested, of the President and Secretary, I learn that they have an aggregate membership of about if not quite 600 members. Our State society has about 400 members. I do not think I am far wrong when I estimate that one-third of the members of the county societies are also members of the State society, leaving about 400 members of the former that should be added to the aggregate of our State society membership at this meeting, or immediately subsequent thereto. But this is not enough. We need and should have, by the time our next annual meeting is held, not less than 2500 regular practitioners out of the entire number in the State in full fellowship and hearty accord with this society. This can be accomplished with earnest, harmonious, and active work, which must necessarily devolve upon the younger members. I know that I can promise on the part of those who now, like myself, are approaching the "sere and yellow leaf," a most hearty co-operation.

Outside of the individual benefit that will accrue to every-

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one, there is far more that can be accomplished for ourselves as a class, and for the great body of our people who trust and confide in us. There are certain ends most devoutly to be desired, that we cannot attain by individual effort. Our State Board of Health and our State Board of Medical Examiners are the work of successful movements of this society. They yet need your fostering care, your combined counsels, advice, and support. In addition, legislation is needed looking to the protection of our people from adulterated food products, impure and defective drugs and medicines, the social evil, matters pertaining to heredity and environment as relating to the individual as well as the State, and many other important features that will result in a betterment, an improvement, and the greatest happiness of our whole people. That legislation will be secured by united and organized investigation, discussion and consideration.

It is not necessary that 2500 men in this State, with the influence local and general possessed by them, united in their views, any more than 125,000, in this republic should beg for legislation when they can DEMAND it. If we will only thoroughly organize and unite, we can demand anything from any State Legislature or from Congress. Thackeray has said that "any woman not actually humpbacked could marry any man she pleases," man's safety being that woman, like other patient and long-suffering animals, does not know her own strength. This is no less true of the medical profession. We do not know our strength.

In completing my term of service, and the enjoyment of the high honor conferred on me one year ago, permit me to say that my devotion to this society for more than a quarter of a century to the hour of my last expiring breath has been and ever will be combined with a desire most dear to my heart and soul, to see its prestige and power attain the highest possible eminence; and while during my incumbency as your presiding officer it has not been as successful in this respect as the most ardent zeal might desire, yet I can honestly say that much has been accomplished, and its high position in the esteem of the people of our State and professional colleagues at home and abroad has been maintained; and

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through your wise counsels, harmonious action and earnest effort, may be greatly increased in the near future.

In conclusion, permit me to tender you, one and all, the warmest wishes of my heart for your prosperity in life, and happiness at its evening's close. In the language of Tiny Tim, "God bless you everyone;" and in the words of one of the greatest American writers, as interpreted by the grandest delineator thereof, "May you live long and prosper."

ORIGINAL ARTICLES.

DIPHTHERIA AND DIPHTHERITIC ANTITOXIN AS A SPECIFIC.*

BY O. S. McCOWN, M.D.
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THE clinical diagnosis, prognosis and treatment of membranous diseases of the throat depend upon two things, the location of the membrane and the cause of the inflammatory process producing it.

As to the location the two general divisions—pharyngeal, including the tonsils, and laryngeal, may be made. The two causes are the Klebs-Loefler bacillus and the streptococcus pyogenes aureus.

The appearance of the membrane is almost the same in either locality or from either cause, except that the true diphtheritic membrane is a little darker in color and more continuous than the pyogenic; but there are important differences in its behavior and the symptoms, depending upon which of the two is the causative organism.

The pharyngeal streptococcus membrane is invariably confined to the tonsils, with an ordinary catarrhal inflammation of the rest of the pharyngeal mucous membrane, and when removed it does not leave the surface entirely denuded of epithelium. There is much redness of the mucous membrane

* Read before Memphis Medical Society, March 4, 1902.

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from the beginning, but the croupous membrane does not appear until forty-eigbt hours or more after the initial symptoms. The attack is initiated by a chill or chilliness, which is immediately followed by a temperature rising quickly to 103, 104 or 105°F. and accompanied by intense pain in the limbs, back and head. The pulse is full, strong and rapid; tongue white and furred; breath foul. The local pain depends upon the amount of catarrhal pharyngitis present, the severity of constitutional symptoms upon the amount of tonsillar involvement. There is a little glandular enlargement and no periglandular infiltration. In some cases transient albuminuria occurs, but an actual nephritis is almost unknown. Constipation is the rule: duration seventy-two hours, no deaths, except from middle ear infection. It is a self-limited disease, for which there is no specific, consequently the treatment is purely symptomatic.

In true diphtheria the initial symptoms are very much the same, but the temperature rises more slowly or may be entirely absent, and the head, back and leg pains are less marked. Pulse fast and weak, face pallid. The membrane begins to form with or preceding the constitutional symptoms and spreads rapidly over the tonsils to the pillars of the fauces, uvula, nares, pharyngeal walls, and if not checked, to the larynx. The membrane is usually seen first on the tonsil, but may begin on any part of the faucial mucous membrane. The cervical glands are markedly enlarged on the first or second day, and there is always more or less periglandular infiltration. Abuminuria is present in nearly all severe cases. Acute exudative nephritis is common. "Paralytic symptoms may develop as early as the seventh or eighth day, but usually during the third week of convalescence." (Osler.) The important points of early differentiation are the condition of the glands, temperature, circulation, behavior of the membrane and the condition of the urine.

Death may result from an extension of the membrane to the larynx. Edema of the glottis, septic infection, usually of the middle ear, and sometimes causing meningitis, sudden heart failure, diphtheritic paralysis, uremia or broncho-pneumonia developing during convalescence.

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Previous to the days of antitoxin the death rate was variously estimated from 20 to 50 per cent. of all cases, including laryngeal and pharyngeal. This has probably been reduced more than half by antitoxin. Holt says that it is less than 5 per cent. in all cases injected before the end of the second day. I believe that it will grow progressively smaller as the use of antitoxin becomes more general, and the amount of the initial dose and the promptness with which it is used increase.

It is impossible clinically to differentiate between diphtheritic and streptococcus laryngitis, but as we have no specific for the latter, and one which is non-toxic for the former, it should be used promptly and in large doses as soon as either form of disease is recognized.

It requires from twelve to twenty-four hours to secure a specimen and make a culture, and as the percentage of cures decreases with each day of delay, I insist upon an early clinical diagnosis. Hence my reason for reciting at length the early clinical picture of membranous diseases of the throat and my inattention to the later progress of diphtheria. What concerns us is the cure of the patient, and this depends upon early and decisive action.

In the worst case of the series reported below, the first specimen failed to give a growth, but four days later, after convalescence was established, a second specimen gave a growth. When in doubt about the diagnosis get your specimen and inject your antitoxin at the same visit.

In support of some of the statements made in the above sketch I cite the following cases:

Case I. White male, aged 3 years, seen first late in afternoon October 11, 1900. Mother said that child's throat had been sore twenty-four hours or more. When seen had temperature of 102°F., pulse 120, drowsy. Small patch of membrane on both tonsils. Some glandular enlargement. I gave the child calomel and a mixture of antipyrin and whisky. Next morning the temperature was 100°F. from the antipyretic, pulse 110, but otherwise condition unchanged. I took a specimen from the exudate for examination, which was not reported on until the 14th, three days after I first saw patient and the fourth day of the disease. Meanwhile I used placebo treatment and waited, because the membrane was confined to

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the tonsils, and the constitutional symptoms were not alarming. Immediately after receiving the report I injected two thousand units of antitoxin (P. D. & Co.) The symptoms were about the same as on the second day, except that the membrane had grown and the glandular enlargement increased considerably. The child was not seen for twelve hours after the injection, when the temperature was normal and remained so, and the membrane was beginning to peel off. The patient was discharged on the fourth day after the injection, and on seventh day of disease, with throat perfectly clean. No complications or sequelæ.

Case II. White female, aged 4 years. Seen on April 23, 1901. Had been ill for three days. Temperature 101°F., pulse 120. Glands much enlarged. Membrane on both tonsils, pillars of fauces and uvula. I took a portion of this for examination and insisted on injection at once, but the parents would not consent. A report of typical culture was received, and on the second day after first seen, or the fifth day of the disease, two thousand units of antitoxin (P. D. & Co.) were injected. During the placebo period of two days the membrane extended to the posterior nares, but the constitutional symptoms remained about the same. The temperature was normal on the following day, and the pulse improved. Twenty-four hours after injection the edges of the membrane began to crimp, and the patient was discharged with a clean throat on the fourth day after injection. A slight albuminuria, but no sequelæ.

There were two other children in the family, one nine and the other eleven years of age. Both were injected with fifteen hundred units each. There were no after effects from the injection, and both escaped the disease.

Case III. White female, aged three and a half years. Seen on November 30, 1901. Throat had been sore three days. Temperature 103°F., pulse 124, glands of the neck very much enlarged and tender. Dirty gray membrane covering both tonsils, faucial pillars and uvula, and filling posterior nares so that no air could enter through the nose. Respiration was painful from mouth breathing. Two hours after first seen I took a specimen for examination, and gave three thousand units of antitoxin (P. D. & Co.) The specimen was reported not diphtheria. Twelve hours after giving antitoxin the temperature was 100°F., pulse 100. The temperature soon dropped to 99°F. and ranged about this with pulse to correspond for five days, when it became normal and remained so. The membrane was so extensive and so thick that there was no

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perceptible improvement in the local condition until the end of thirty-six hours after the injection, when the membrane commenced to loosen and come away in chunks, some of which would fall back into the throat and cause much coughing and even threaten to obstruct respiration. The local treatment was confined absolutely to removing the fragments of membrane with a cotton swab, and inhalations of steam to relieve painful respirations. I gave only the one dose of three thousand units, but the membrane continued to fall off until the surface was perfectly clean on the eighth day after its administration, when the patient was discharged. A second specimen taken on the sixth day of the disease was reported diphtheria.

The adjunct treatment consisted of eight grains of calomel at first, stimulation, steam inhalation and removal of loosened flakes of membrane with a swab.

There was a slight albuminuria which lasted three days, and regurgitation of food through the nostrils which began on the seventh day of the disease and lasted two days. There still remained an impediment of speech from paralysis of the muscles of the palate, but swallowing was not interfered with. Internal strabismus of the left eye and paralysis of the muscles of the legs appeared during the third week of convalescence. These sequelæ lasted tbout a week, when they began to improve and finally disappeared.

Case IV. White female, aged 23, the mother of the child reported in Case III. On December 2, 1901, she felt a slight discomfort in the throat. On examination I found a small patch of membrane on one tonsil and the glands were slightly enlarged and tender. No constitutional symptoms. Twenty-four hours later the condition was the same except the spot of membrane had grown larger, a specimen of which gave a diphtheritic growth. During this day she had a chill followed by temperature of 103°F., pulse 120, and considerable aching. Twelve hours after the chill the symptoms were about the same and the original membrane spreading with a new one on the other tonsil, and glandular enlargement increasing. I gave an initial dose of three thousand units of antitoxin (P. D. & Co.) and when seen twelve hours later the temperature was 99½°F., and pulse 100. Twenty-four hours after injection the membrane commenced to crimp and had disappeared by the fourth day.

On the tenth day after the chill there was regurgitation of the food through the nose which lasted only three days, when it disappeared, leaving a slight difficulty in swallowing and some interference with articulation, both of which lasted about ten days.

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This patient was three months pregnant, and I greatly feared a miscarriage with the increased danger of sepsis. This, however, was avoided.

On the twelfth day after the use of the antitoxin a red itching, papular eruption made its appearance on all parts of the body, and was accompanied by joint pains in the shoulders, wrists, knees and ankles. The wrists were most painful and slightly swollen. No fever. These symptoms lasted about forty-eight hours. No medicine was given for them.

The one other child in this family was a little girl five years old, to whom I gave two thousand units for immunization. Twelve hours afterward the temperature was 99.5°F., but was normal at the next examination, twenty-four hours after the injection.

This child had the same eruption and joint pains as did the mother reported in Case IV, with the same duration. The pains were worse in the ankles, and caused some swelling and stiffness in these joints.

Note that only one dose of antitoxin was given in each of the cases reported, that the minimum dose was two thousand units, and that in two cases the dose was three thousand units. In one instance this maximum dosage was used with a child three and a half years old.

Antitoxin is non-toxic, and if used early, according to Holt, reduces the mortality of diphtheria to less than 5 per cent., therefore why not inject all cases of membranous pharyngitis without making a diagnosis?

First, because the cases of streptococcus origin greatly outnumber those of true diphtheria, and they all recover in from three to seven days regardless of treatment.

Second, the injection is painful and the child and parents always wish to avoid it if possible.

Third, the antitoxin is expensive.

Fourth, it is very necessary to make a diagnosis in order to protect other children as well as adults.

Fifth, on general principles, always make a diagnosis.

Antitoxin should be given at once in every case of membranous laryngitis, because the Klebs-Loeffler baccillus is nearly always present, though usually associated with the streptococ-

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cus pyogenes, and antitoxin will surely neutralize one of the causes of the croupous inflammation, thus increasing the chance of recovery. Delays are particularly dangerous, because it takes from twelve to twenty-four hours after injection for the membrane to begin coming away, and death is the result of mechanical obstruction; the membrane is a menace until it is disposed of.

Intubation or tracheotomy should be performed when necessary to keep the patient alive until the antitioxin can render him immune to further action of the germ of diphtheria, or to give him air upon which to resist the attack of the pyogenic bacteria.

Diptheritic antitoxin is an innovation which has been tested and its virtue proven, the introduction of which almost marks an epoch in therapeutics. Its undisputed value leads us to hope for equally great things in serum therapy for other diseases.

229 Main street.

FEVERS OF NORTHEASTERN ARKANSAS.*

BY F. R. WHEELER, M.D.
MONETTE, ARK.

I HAVE no theoretical points to advance. All that will be said has been obtained by my own observations at the bedside, and to you may be nothing new, except perhaps the treatment, which may be at variance with your preconceived opinions.

Doubtless a picture of the pathological condition I wish to delineate might be anticipated by a knowledge of the physical features of that section of country which is known as the St. Francis Basin—the sunk lands of Arkansas. This section is of alluvial formation, of sandy soil, which is well timbered and very fertile. There abound many shallow water courses, which gradually cease running and finally go dry in summer. Yet a pump driven twelve to twenty feet anywhere into the ground secures good and wholesome water.

The first settlers were a healthy people. Further along

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 20, 1901

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chills and other forms of malaria appeared. Typhoid as yet has not made its advent. However, there now exists a seeming combination of these fevers, which, for the want of a better name, I shall call typho-malarial. This subject you are ready to say is stale and has been laid aside for years, to which I would reply that by wrong treatment many patients, I believe, have also been laid aside for years; and to suggest a means to stop this emigration to the land beyond is my apology for writing this paper.

In these continued fevers there are two manners of invasion — the sudden and the slow. In the sudden manner, as would be inferred, fever begins abruptly; prodromes are absent; a chill and a sudden rise of temperature mark the onset of the disease; all the phenomena of fever are rapidly established; hot skin, rapid pulse, thirst, headache and pain in the back and limbs harass the patient from the beginning; the tongue is white and coated, bowels constipated, urine diminished in quantity and of high specific gravity. In fact, these symptoms much resemble the malarial type of fevers.

The invasion in the other type (the slow) is manifested by symptoms not wholly unlike those that accompany typhoid. Thus there are lassitude, anorexia, languor, a sense of weariness, with rise of fever during the evening and decreasing temperature next morning, usually increasing in intensity each day for several days before counsel is sought, when the patient will tell you that he is not very sick, but wants you to prescribe for him, and on your return the next day he may tell you that he is better, which you know is not so; before you leave he may talk at random, so to speak, or probably be slightly delirious.

In both types there are continued remissions of fever, aching, referred mostly to the back and head, and coated tongue, which may be white, furred, yellow, or possibly clean. In both types there is acid urine of high specific gravity, containing phosphates and urates. Both types are endemic, more especially the slow. Often every member of the patient's family contracts it.

I have seen only two deaths from this disease, both occurring in the same family, all of whom were similarly affected

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and in whom the typhoid rash appeared, yet in none of whom were there any symptoms of inflammation of Peyer's patches or the solitary glands; and, too, these patients were treated for malarial fever — that is, by the quinin method. As was said, they died.

Had you not rather cure your patients by an Arkansas swamp doctor's suggestions than to kill them scientifically? And now to the treatment, which is the gist of this paper.

No doubt the first thing you expect me to say is, "give the patient some calomel," and I shall not disappoint you. I have treated this disease without mercury, but to my sorrow. Mercury arouses more glands than any other remedial agent we possess; besides, by its action on nutrition, it increases the number of red blood corpuscles—a great desideratum.

After calomel, turpentine seems to meet more pathological conditions than any other agent. For the dry tongue, tympanites and inactivity of the kidneys, I know of nothing so useful as turpentine, the taste and odor of which may be disguised by aromatic cascara sagrada and oil of wintergreen.

Febrifuges, although they do not cure, are not without utility. I have obtained most benefit from gelsemium, the acette and other potash salts; phenacetin, acetanilid and the other coaltar preparations we use mostly for their analgesic effect. Of course they reduce fever, and are diaphoretic, thus becoming handy tools, but not curative ones.

Bathing plays an important feature in the treatment, as well as the consumption of much water.

I have found the toning influence of arsenic and strychnin of much benefit.

Nourishment, mentioned last, forms by no means the least important part of the treatment.

You observe I have made quinin very conspicuous by its absence. When I first began treating these fevers, I used quinin, as at that time it was considered the most essential agent, and, too, I knew then no other treatment; but observing no improvement by the quinin method, I soon ceased to prescribe it, and at present use quinin only when I find a malarial condition, for which it is a specific.

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I beg your attention to the report of a recent case which came under my observation:

Mr. M., marshal of our town, aged 35. Previous health good. Condition diagnosed as malarial fever by two physicians, and so treated for twelve days, when I was called in consultation. At this time (the twelfth day) the patient had a temperature of 104.5° F., taken under the tongue; his respiration was 54 to the minute; his circulation was 140; his liver and spleen were enlarged; his tongue was dry, brown and cracked. When I first saw the patient he was passing blood through the kidneys, and had been doing so for the preceding twelve hours. He was very delirious, indeed, and had been so most all the time. The previous treatment had been quinin sulphate, four grains every two hours for the first forty-eight hours, then four grains every four hours; elixir iron, quinin and strychnin, teaspoonful every four hours, with an occasional dose of calomel, acetanilid, sulphate of soda and whisky. After the hematuria had set in, geranium was added to the treatment.

By request, the patient, who was now vomiting, was given a hypodermic of morphin and atropin, and an entire change of treatment. Calomel, turpentine, strychnin, bathing with Jamaica dogwood till his deliriousness ceased, constituted the main treatment, stopping quinin altogether. The patient made a slow but uneventful recovery.

ATRESIA OF THE VAGINA, WITH REPORT OF CASE.*

BY ALLEN E. COX, M.D.
MILAN, TENN.

By atresia vaginæ is meant complete occlusion of the vaginal lumen throughout a greater or less part of its extent. The occlusion is due to adhesion or organized union between the opposing vaginal walls. (Henrotin.)

Atresia vaginæ may be either congenital or acquired. In the great majority of cases it is of the acquired type, and it may be complete or incomplete. One of the causes is acute vaginitis, which may occur in the wake of the acute infectious diseases and be overlooked on account of the severity of the primary disease. Such atresiæ, originating early in life, give no indications of their presence until after the menstrual func-

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 21, 1901

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tion is established. Another cause is traumata, which, when followed by cicatricial contraction of the vagina, may cause it, as lacerations of the vagina during labor or sloughing from prolonged pressure of child's head. Other traumata mentioned as causes are, pessaries unremoved for a prolonged period, foreign bodies introduced for malicious purposes and caustic applications for various purposes. Infection, with cicatricial contraction, may follow any or all of these conditions, causing partial or complete atresia.

On Nov. 4, 1900, I was called to see Mrs. G. D , æt. 30 years, married ten years. Her physician informed me that she had been a great sufferer, menstrual molimina being her chief source of pain. She began to menstruate at the age of thirteen years, and aside from the pain caused by the establishment of her flow, there was nothing significant in her case. She was treated by a physician some six years previous to the time that I saw her for so-called ulceration of the cervix uteri. I do not know what measures were used, but the patient stated to me that she suffered severely afterward, and in a few days there passed a membrane-like substance. From this time to the time I saw her, she declined to have further medical attention. Her menstrual epochs were characterized by intense pain, and the flow came through a fistulous tract. It consisted of dark clotted blood and it was scanty, lasting for a day or two only. Upon an examination I found the vaginal walls completely adhered, or grown together from the orifice of the vagina to the cervix. With fingers passed into the rectum, the cervix uteri could be palpated. After the parts had been shaved and sterilized and the patient anesthetized, she was brought to the edge of the table in an extreme lithotomy position. With a scalpel I attempted to dissect one vaginal wall from the other, using the finger and the handle of the instrument, making a blunt dissection. On approaching the cervix uteri I found that I was a little to right of the cervix, there being only a thin wall between, through which I incised. She having had dysmenorrhea since her menstruation began, I next dilated the cervix and curetted the uterus for the purpose of correcting this disorder. The uterine cavity was packed lightly with sterile gauze; the vaginal tract was dusted with iodoform and boric acid and packed with iodoform gauze and allowed to remain seventy-two hours, at the end of which time the packing was removed both from the uterine cavity and vagina; a strip of gauze was then carried into the uterine cavity and the vagina again packed with iodoform gauze, which remained

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in forty-eight hours. Afterward the vagina was packed every second day for two weeks. About this time it was my misfortune to happen to suffer an accident that necessitated my absence from patient for two and one-half months. During this time she did not menstruate. When the vagina was examined again just three months from the time of the operation I found the canal contracted to the size of the index finger, which could be passed up to the cervix with difficulty; but by manipulating the parts and stretching from time to time with forceps prepared especially for the purpose, a plug seven and one-half centimeters long by seven centimeters in circumference was introduced and worn for a short time each day. It soon became evident that my patient was pregnant; and the dilatation was hastened and a larger vaginal plug eight centimeters in length by nine and one-half centimeters in circumference, introduced and worn during the latter months of her pregnancy. The case progressed well, and on August 12, 1901, just nine months and eight days from the time of the original operation, I delivered her of a nine pound baby. The vaginal tract at this time was somewhat contracted and forceps were used to make the delivery. The perineum was lacerated down to the sphincter ani muscle, which was immediately repaired with aseptic silk. My patient has had an uneventful puerperium. Stitches out on the tenth day. Both baby and mother are well at this time, some three months after the delivery.

SCARLET FEVER.*

BY L. A. YARBROUGH, M.D.
COVINGTON, TENN.

When I received the preliminary program of this meeting, and found that it contained no paper on scarlet fever I was somewhat disappointed, as we are now visited for the second time since I have been practicing medicine with a very severe epidemic of this disease, first in the country, then in our town. There is no disease that furnishes, when improperly treated, a greater variety of serious sequelæ. If a doctor is not very careful the pathologist will have an abundant supply of material for the study of morbid anatomy. The oculist will have many eyes to look after, but not as many as after measles.

You will hear of ear cases from the aurist, since deafness

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very often follows. The laryngologist will have many cases of throat troubles following scarlet fever, but they require so much time in which to effect a cure they never speak of them. Even the obstetrician dreads the complication of scarlet fever; but when it is said that a woman is more susceptible to scarlet fever, I for one am sceptical. I never have seen one attacked. As the boys say, "I am from Missouri" and have to be cited before I believe it. I do not deny that the puerperal state renders the woman more liable to septic troubles, which sometimes have similar eruptions.

Scarlet fever is almost always a mixed infection from the very beginning, and every weak portion of the human anatomy is liable to develop an abscess. I find in reading the authorities on this subject, that every part of the body furnishes us with sequelæ from this disease except the appendix. With appendicitis following scarlet fever they all die, consequently no report from the abdominal specialist.

The word scarlatina, in Latin meaning red, is a synonym for scarlet fever. In English we mean more than red, it is scarlet, almost crimson. It is classed by our medical authorities as one of the exanthemata or eruptive fevers. It is specific, always acute, self-limited and more than contagious, it is infectious. It is usually a disease of childhood, but I have seen a few cases in adults. I think a doctor now attending this meeting can speak feelingly on the subject. He had it when over thirty years of age. Woollen clothes and carpets retain the poison or germs of the disease for weeks and months. This disease is characterized by a very rapid pulse, even from the beginning, all out of proportion to the temperature. By nausea from the first with high fever at the onset. A diffuse scarlet punctiform rash appears on the second day, first on the neck and chest, then the entire body. Sore throat, and last but not least an unusual tendency to endocarditis and nephritis accompanying it. The skin scales off, as in all bad cases of dermatitis. The palms of the hands and soles of the feet peel off in large flakes. One attack usually protects the patient through life, but I had a case that had a light attack during our first epidemic three years ago, and a very severe attack during October of this year. Very young infants almost always

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escape the disease. Frequently two or more of a large family of children will escape the fever, consequently it is very hard to ascertain the good accomplished by preventive medicine. Isolation and fumigation are the prophylactic measures.

As to the etiology there is no doubt as to its being due to a microörganism, but as yet it has never been satisfactorily isolated, although a few micro-telescopists have seen it in their dreams. One reason for its being so hard to obtain a culture of the scarlet fever germ is that most animals cannot be inoculated with the poison. I have been told that only the pig and the goose are susceptible, and the present prices of both will allow neither the Jew nor the Gentile to experiment.

This contagion is very tenacious, and will adhere to clothing, cats, dogs, flies, and possibly mosquitoes; consequently this disease is very hard to eradicate from a community until it uses up all the suitable material in its scope.

A part of twenty minutes is too short a time to go into the pathology of this subject, so I will pass on to the treatment.

First put your patient to bed properly — that is, with a gown on, in a single bed, and a room to each patient, if possible. Cleanse the alimentary canal with sodium phosphate, or small doses of calomel, and large enemata. Give the patient plenty of good, fresh air. Keep the temperature of the room always the same. Reduce the fever with gelsemium, aconitin and bromid of soda, mixed, or the tepid bath; if very high, use the ice cap to the head, or cool sponging of the body. Give all the cool water the patient will drink; I do not like ice to eat, nor the ice pack. Give chloretone for the nausea, and to quiet patient also. Give Bartholow's favorite and my choice intestinal antiseptic—i. e., iodized phenol, carbolic acid and tincture of iodin, two to four drops well diluted, every three, four or six hours. If the heart continues fast, give digitalin, or the specific tincture of digitalis, with the bromid of soda; never use morphin or whisky. Anoint the patient with borated or carbolated vaselin to relieve the itching. Give nothing but liquid diet. If the child is old enough, use mild antiseptic throat gargles; if very young, use the mop. Always look carefully after the nose; cleanse it thoroughly

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with Dobell's solution, or some mild alkalin wash; then with a common medicine dropper or syringe inject ten to thirty drops of a solution of adrenalin chlorid or suprarenal extract into each nostril every four or six hours, let the patient swallow it, and in twenty minutes after each injection spray with an antiseptic oil, such as chloretone inhalant; this done, you will seldom find ear troubles of any kind.

If the heart continues fast, the skin dry and hot, the urine scanty and fever high, give a small dose of digitalis or strychnin hypodermically, wait twenty or thirty minutes, then begin with small doses of pilocarpin hypodermically every hour until you get its physiologic action. Do not be afraid to use it, but stay with your patient when you do so. That fast heart is caused by the poison in the system, which must be eliminated, or your patient will die. The kidneys at this time are always involved, or unable to excrete the poison with sufficient rapidity from the blood; consequently you must aid them. If the saliva accumulates in the throat, do not become alarmed, but take pieces of absorbent cotton with your dressing forceps and mop it out as fast as it accumulates. Repeat the pilocarpin every day, or every other day, each time giving it yourself, until you can see the effect of the drug. Strychnin and atropia will always check its action at once, if ever it should be necessary to do so.

I repeat, never use morphin or whisky in the treatment of this disease. I give quinin when complicated with malaria. The coaltar preparations have proved of little value to me in the treatment of scarlet fever. If rheumatic symptoms follow, there is nothing better than iodid of potash. I always follow for several days with a select diet and good tonics, such as calasaya cordial, syrup of phosphate of iron and strychnin compound, or the tincture of chlorid of iron. I have never used the bichlorid of mercury treatment. I am very careful to have the room scrubbed each day.

The mortality of scarlet fever varies in different epidemics from three to forty per cent., according to Osler. I have treated over one hundred and fifty cases, and have lost two; one died in about twenty-four hours from the time I first saw her, which was twenty hours longer than I expected. Seven

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members of the same family had the disease, and recovered; only one escaped. The other fatal case, I saw for the first time on the third day; she was a little girl, 10 years old, living three miles north of town, in the edge of a river bottom; she had several chills during the summer and fall, and was a sufferer from chronic catarrh.

The school regulations are very important, for if all the children from the infected families are immediately stopped, and are not allowed to return until their residences and clothing have been thoroughly fumigated and freed from the poison, and each patient has been carefully examined by the family physician and a written certificate obtained before allowing the child to re-enter school, it will not be necessary to close our schools. In our school house we have each room thoroughly fumigated every Friday. The school rooms should be mopped up every afternoon, and not swept, as the dust would thus be flirted from the desks and furniture to contaminate the air in the room for the children to breathe on entering. The disease is distributed more often by the very mild cases, those cases which are almost impossible to be recognized, than any other way. The washwomen frequently carry the disease from their small, badly crowded, poorly ventilated houses directly to your homes. Therefore, the health authorities cannot be too careful in looking after those cases, always remembering that the disease is very hard to recognize when in a mild form with the negro. I always brush my clothes, wash my hands and even use the carbolized spray when I have the time, or have been in the room any length of time, before I visit another patient; consequently, I can conscientiously say I do not think I have ever carried the poison to a patient.

THE AMERICAN MEDICAL ASSOCIATION will meet at Saratoga Springs, N. Y., June 10, 11, 12, 13. Indications are that this will be the most interesting meeting from scientific and social standpoints that the association has ever held. The Illinois Central Railroad will run a through sleeper from Memphis to Saratoga for the accommodation of physicians of this section. The sleeper will leave Memphis Saturday night, June 7, at 8:40 o'clock, arriving at destination Monday at 1:20 P.M. Physicians desiring information concerning rates and berth accommodations should write to J. A. Scott, D.P.A., Memphis, Tenn.

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A CASE OF ACUTE DEMENTIA FOLLOWING GUNSHOT WOUND.*

BY G. B. GILLESPIE,
COVINGTON, TENN.

I WAS called a few minutes after 2 o'clock A.M., March 24, 1901, by telephone, to see Mr. C. M., who lived about five miles from my house in the bottom. I was told that he had been shot, and accordingly went prepared for any operation that might be necessary. When I arrived I found him to be a young man about 24 years old, vigorous, strong and healthy. He was pale, pulse rapid and feeble, and he seemed to have lost much blood. His clothes were found saturated with blood on the right side and when they were removed a wound was revealed. This wound had been inflicted with a full load of birdshot size no. 6, at close range. The wound was situated in the mid-axillary line, the center of it being in the sixth intercostal space, and included the sixth and seventh ribs, which were shattered. This made a wound into which several fingers were easily introduced. The shot struck him rather obliquely, and ranged backward and downward along the chest walls toward the spinal column. There was a large wound in the lung, and air could be heard to enter the hole in his side at each inspiration. I set about cleansing the wound as quickly as possible, introduced my fingers as far as I could and removed the pieces of clothing, gunwads, etc., carried in by the shot. I also removed quite a quantity of shot. The patient's condition was so serious, he had lost such a quantity of blood and was so weak, that I irrigated the cavity with a bichlorid solution as quickly as possible, packed it with iodoform gauze and applied a sterile dressing. 1-30 gr. of strychnin was then administered. He seemed to rally somewhat, but when I left him that morning, I never expected to see him alive again. When I saw him him that afternoon, his temperature was 102½°F., pulse 120. I ordered as nourishment milk, 4 oz. every two hours, and strychnia, gr. 1-40, three times a day. He seemed in about this condition for the two days following; if any difference his temperature was higher and he seemed to grow worse and worse, hardly taking any nourishment. Each day the packing was removed and the wound was irrigated with bichlorid solution, 1–4000.

On the third day his temperature was 102°F., pulse 120, he had no appetite and urine was scanty and highly colored. This day we removed the gauze packing, enlarged the wound some-

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 21, 1901

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what, clipped off the jagged ends of ribs and removed some particles of clothing, shotgun wads, etc. After this the wound was irrigated thoroughly with 1–4000 bichlorid solution and packed with 5 per cent. iodoform gauze. He was much better the next day, temperature 100°, pulse slower and stronger and he was hungry. He continued to improve, and in a few days his temperature was normal and he ate everything that was allowed him. His wound was infected from the first, probably by the clothing carried in by the shot. However, it was readily controlled by the daily irrigation with bichlorid and iodoform gauze dressing, which we gave it. Although his temperature was normal and the wound seemed to heal kindly, his pulse continued rapid (100 to 110) and weak, and he lost strength and weight for about three weeks.

He then began to gain in weight and strength, and his appetite improved.

About the end of the third week he grew worse, although we had promised him an early convalescence, his wound being almost closed with healthy granulations. His temperature went up to 101°, pulse 128, breath was foul, he lost his appetite and was constipated; on two days he suffered from retention of urine and the catheter was used. His attendants complained that he was restless and could not sleep. He became what we then thought was slightly delirious. Iodoform poisoning was suspected and all iodoform excluded from the wound. Elimination treatment was used. Cathartics and diuretics, hyoscin hydrobromate in 1-100 gr., and repeated in two hours hypodermically, was used to induce sleep. Strychnin and iron were also given. The condition of his mind, however, became worse, his eyes took on a silly, vacuous expression and his talk was meaningless. He was never violently maniacal, never destructive, but became careless and filthy in his habits. He believed the "doctor had wound him up and he could not get straight." He was suspicious of his family, especially his mother, and often did not recognize his most familiar friends. The most striking thing about his appearance though, was the vacuous grin that he continually wore and the silly manner in which he would play with his fingers and thumbs for hours at a time. These symptoms continued for several weeks. His wound was about healed when he was sent to the insane asylum at Bolivar.

I considered this a case of dementia, caused by the weakened, debilitated condition of the patient. However, his father gives a history of having been similarly affected after an injury.

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I gave it as my opinion in my report, when he was sent to the asylum, that he would probably recover with proper treatment. I have learned quite recently that he is greatly improved.

PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

Agreement Between the History of Yellow Fever and Its Transmission by the Culex Mosquito.

C. Finlay (*Jour. A. M. A.*, vol. 38, no. 16), after an exhaustive study of historic and etiologic considerations, submits the following conclusions:

1. The endemic foci of yellow fever in America, from the pre-Columbian times to the beginning of the seventeenth century, were comprised within a zone between the 20th and 8th or 9th parallels of north latitude, reaching, toward the east, as far as the Leaward Islands and limited toward the west by the Atlantic coast of the American continent. During the seventeenth century, that zone extended further north up to the 23d parallel and southward to the parallels of Bahia and Pernambuco. Finally, in 1850, it reached Rio de Janeiro.

2. The transportation of mosquitoes of the yellow fever species, in sailing vessels, appears to have been of frequent occurrence, ever since the early times of the discovery of America. To it must, probably, be attributed the coincidence of the severe epidemic of the so-called "modorra pestilential" in Santo Domingo, in 1494, with another very fatal epidemic of the same name in the Canary Islands, the same year. Apart from the conveyance of contaminated mosquitoes, healthy ones must have frequently been imported into subtropical countries, where they are found now to exist, having acclimated themselves to their new abodes. This is known to be the case in Italy, in the south of Spain and coasts of the Mediterranean, as well as in the south of the United States and in other countries. The previous existence of the yellow fever mos-

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quito must he considered, *per se*, to constitute a dangerous complication whenever a case of yellow fever happens to be introduced in a place usually free from that infection.

3. The range of the Andes and its prolongation along the Isthmus of Panama and Central America, appears to have stood as a barrier, protecting to some extent the western coast of America against the migration of contaminated mosquitoes. That obstacle, however, is about to disappear when the Panama or the Nicaragua canal comes to be opened; let us hope, therefore, that, by that time, through the joint efforts of all the nations interested, all the existing foci of the disease will have been extinguished and that the adoption of measures, similar to those which have proved so successful in the hands of our sanitary department, will henceforth provide reliable means for controlling the propagation of yellow fever.

Cyclic Albuminuria.

W. E. Huger (*Johns Hopkins Hosp. Bul.*, vol. 13, no. 133) says:

That the cyclic albuminuria, like the recognized pathological albuminuria, is due to one or perhaps all of three causes:

1. Inflammatory and degenerative changes in renal structure, as evidenced by the finding of casts. There is every reason to think that by careful searching casts will be found far more often than previous reports lead us to believe.

2. Alterations in the quality of the blood which render its serum-albumin more diffusible. There is nothing to prove an inferior diffusibility in these cases, but the patients are almost always anemic.

3. Alterations in the degree of blood-pressure. Here due to a mechanically increased pressure on the renal veins.

Having learned that occasionally these cyclic cases pass into Bright's disease, but that by far the majority have gotten well and that many have been followed for years and then lost sight of still in their same condition, it must be admitted that Moxon and Arnozan were right in dividing them into two groups: (*a*) Those few which develop a continuous albuminuria, and (*b*) the vast majority which get well. Continued rest in bed for a prolonged period should always be urged because at any

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rate it removes the exciting cause. One of Huger's cases remained free from albumin for three months after being in bed for three weeks.

He believes that by a *very careful* examination for casts a large percentage of cases will be found to contain them, and that the serious prognosis given because of their presence will be modified.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

Analgesia By Intra-Spinal Cocainization.

R. E. Fort (*Nashville Jour. Med. and Surg.*, vol. 91, no. 3.) in a carefully compiled and exhaustive paper, presents a synoptical review of the present status of intra-rachidian analgesia. His own experience comprises fifty-one cases, with forty-two successes, seven partial successes and two failures. Fort's cases presented:

1. Operations on the lower extremity from the knee downward. This includes one tibial sequestrotomy, one excision of astragalus and lower portion of tibia, one excision of astragalus and cuneiform bones, two amputations at the lower third of leg, one amputation at middle third of leg, one amputation of great toe, one curettage of indolent ulcer.

2. Operations upon thigh and groin, includes six inguinal adenectomies. One ligation of femoral artery in Hunter's canal, one ligation of femoral artery in Scarpa's triangle.

3. Extra-peritoneal operations in pelvic and ano-rectal regions. This includes one perineorrhaphy, one perineorhaphy and trachelorrhaphy, curettage seven, hemorrhoids three, incision and curettage of vulvo-vaginal abscess three, one excision of urethral caruncle, one cystoscopic examination, one fistula in ano, one perineorrhaphy and curettage, one excision and curettage of perirectal abscess, one curettage of perianal ulcer, one curettage and trachelorrhaphy.

4. Operations upon the genito-urinary tract. This includes

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one Bennett's operation for varicocele, two rapid divulsions of urethral strictures, one perineal lithotomy.

5. Abdomen. One appendectomy.

Fort finds that his observations enable him to conclude as follows:

1. Intraspinal cocainization will not replace general anesthesia, but has a wide range of usefulness in surgery below the diaphragm and in obstetrics.

2. The only two dangers (sepsis and cocaine toxemia) can be overcome. The first by surgical care in the preparation of the solution and the field of puncture; the second by prophylactic and general measures used in combatting cocain toxemia.

3. The method is an easy one.

4. The post-operative symptoms observed are not serious and are trifling compared with the post-operative symptoms and sequlae of general anaesthesia.

5. No condition has been observed which contra-indicates its use. It has been used in all conditions which contra-indicate the use of general anaesthesia with the happiest results.

6. Therefore its use is imperative in conditions which contra-indicate general anesthesia.

Leucocytosis as a Point of Diagnosis in Appendicitis.

H. M. Joy and F. T. Wright (*Med. News*, vol. 80, no. 14.) says:

1. The leucocyte count is a valuable aid to prognosis in appendicitis.

2. This is distinct from its diagnostic value.

3. A high stationary, or an increasing, count indicates a morbid condition of increasing severity which demands operation, no matter what the clinical symptoms may be.

4. A low stationary or decreasing count indicates that the severity of the case is abating and that operation may be safely postponed. Cases in which a falling count is accompanied by unmistakable signs of a generally bad condition form the rare exception to this second principle, and in them there is no chance of error.

5. No arbitrary set of prognostic values to be assigned to various degrees of leucocytosis can be constructed. The

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important point is to follow any scheme in which one learns to have confidence, provided the essential principle be preserved.

6. The count indicates when operation should be performed for the best interests of the patient.

7. Circumstances often render it desirable to postpone operation in appendicitis. Study of the blood-count enables it to be determined whether this may be done with safety and often renders such postponement permissible.

NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary; Laryngologist to Presbyterian Hospital.

Epithelioma of the Larynx in a Twenty-five Year Old Male, Operation, without Return Twenty Months Later.

E. Schmiegelow at the fourteenth meeting of the Danish Otolaryngological Society (*Monat. fuer Ohrenheilkunde*, vol. 36, no. 3) reported the case of a male, 25 years of age, who came under his treatment on March 27, 1900, on account of an insidious affection of the larynx, which at first presented the picture of a chronic laryngitis. Later this showed infiltration of the anterior end of the left ventricular band; movement of the left vocal cord was normal. For the purpose of securing a microscopical examination, the anterior fourth of the left ventricular band was removed with a Landgraf's curette. Microscopical examination revealed a typical epithelioma. The patient was removed to St. Joseph's Hospital, and on the 15th of June Schmiegelow introduced a Hahn's tampon canula, following which a thyreotomy was done. The new growth occupied the anterior third of the left ventricular band, and it extended on to the anterior portion of the right vocal cord, but scarcely to the left vocal cord; it had also spread to the left Morgagni's ventricle. With knife and scissors the anterior thirds of the ventricular band and Morgagni's ventricle to the thyreoid cartilage were removed; further, the anterior fourth of the right ventricular band was also removed, and the wound vigorously curetted with a sharp spoon. Hemor-

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rhage was controlled with compression and thermocautery, the canula removed and the tracheal and laryngeal wounds covered with iodoform gauze. Respiration was free,and almost immediately after the operation the patient could swallow fluids. On the 9th of October, subjectively he felt well; the voice was aphonic. There was a small suppurating fistula, and when pressure was made in the neigborhood of this, pus flowed into the larynx. On the 12th of November the anterior half of both ventricular bands and the base of the epiglottis were very much swollen. On the the 15th of November laryngofissure was again made, and some granulations removed with a sharp spoon. On microscopical examination the inflammatory masses showed no indication of malignancy, but had the appearance of an adenoma. The wounds healed smoothly. The voice was hoarse and raw, but tolerably tuneful. On laryngoscopy some swelling of the ventricular bands was apparent. In conclusion the author called attention to the great importance of timely endolaryngeal removal of suspected portions for microscopical examination.

Tuberculosis and the Organ of Hearing.

Klug Nandor, at a recent meeting of the Royal Society of Physicians of Budapest (*Med. Press & Cir.*, vol. 73, no. 3283), said:

Tuberculosis of the hearing organs usually occurs as middle-ear suppuration. The process is mostly secondary, or it accompanies bone and lung tuberculosis, especially in children. Tuberculous ear discharges form 0.7 per cent. of all ear diseases. The path of infection may be either from the mouth through the Eustachian tube, or through an already present perforation of the tympanum from the external auditory meatus, and finally *via* the blood. The demonstration of the presence of the tubercle bacillus is often difficult, in some cases it is indeed impossible. The clinical picture is variable. A most characteristic sign is the absence of a reaction and pain. The discharge is copious, thin and foul-smelling. The process extends to the petrous bone, to the labyrinth, and ultimately carries off the the petrous bone and impairment of the hearing results. It leads to facial paralysis, and to erosion

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of the blood vessels. Severe complications such as meningitis, thrombophlebitis, cerebral and cerebellar abscesses may follow tuberculous affections. Milder cases are met with, especially in children. The prognosis is always unfavorable. Even when it heals, defects of the tympanum and impairment of hearing remain behind. The deeper the caries of the petrous bone extends, the graver is the prognosis, nevertheless, by operation some relief can be afforded. The treatment must be local and general. For such patients good air and good nourishment are advisable in addition to the local treatment. By conservative measures we must provide for the free drainage of the pus, so that retention may not occur, and apply antiseptics. The best result, however, is to be obtained by operative measures, when we transform all the middle ear cavities into one cavity, and remove all carious bone. The operation is indicated in every case of middle-ear tuberculosis in which the lung tuberculosis has not yet made much progress.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Feeding After Weaning.

W. A. Worthridge, in a paper read before the Medical Society of the County of Kings (*Brooklyn Med. Jour.*, vol. 16, no. 4) arrives at these conclusions:

Starch-containing foods can be digested but little during the first six months of life.

When a quality of starch can be converted, the milk sugar may be decreased or discontinued.

When the baby is a year old, if eight teeth or more are erupted, certain easily digested, semi-solid foods may be given in small quantities except during the hot weather.

An improper food administered diminishes the digestive powers. If taken often disease commonly results.

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Condensed milk or sterilized milk should not be given as an exclusive diet. Malnutrition results.

The food should be Pasteurized, viz., heated from 155° to 167°F. for twenty minutes, not sterilized.

An infant will thrive upon the food that agrees with it individually. No one food or formula will suit all of the same age.

Modified milk comes nearest to suiting all; but even here there must be constant alteration until the individual needs are satisfied.

In infant feeding the exclusive use of any one food for a long time is to be deprecated.

If weaning is necessary at any time from birth to the sixth month, no food should be given as a rule, except modified cows' milk.

After the ninth month, a starch containing food may be added.

The state of health of the infant greatly modifies the quantity and quality of the food which may be given.

The summer season is very dangerous to the artificially fed. Up to two years the diet should consist of a liquid, easily digested food; from June 15 to October 15.

Meat should not be given at all during the first three years of life. Meat juice is very valuable.

Parents should be labored with and instructed not to give table food and should be told what food is proper.

Treatment of Acute Puerperal Sepsis from a Surgical Standpoint.

H. N. Vineburg (*Med. News*, vol. 80, no. 14) says:

1. Every case of puerperal sepsis is wound fever or wound infection and should be treated on the same general surgical principles applying to wound infection elsewhere.

2. Each case of puerperal sepsis, no matter how slight, should be carefully observed and watched from the outset, for we can never tell whether such a case may not develop into a serious infection which may be a menace to life.

3. When a case of uterine sepsis progresses unfavorably after curetting, irrigation and proper general treatment, as evidenced by the pulse, the temperature and condition of the uterus, we are justified in opening the abdomen and removing

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the uterus, unless, after opening the abdomen, we find some condition outside of the uterus to account for the persistence of the sepsis, or if we find some condition in the uterus itself, as a single intramural abscess or a localized gangrene, which would admit of removal without ablation of the whole organ, as in cases reported by Hirst and myself.

4. When a uterine infection extends to a tube or ovary, setting up a violent grade of salpingitis or ovarian abscess, the abdomen should be opened without delay and the affected tube or ovary removed.

5. When a uterine infection sets up a septic peritonitis the abdomen should be opened and the uterus ablated, the peritoneal cavity flushed with saline solution, and free drainage employed through the vaginal opening.

6. To operate for these conditions when the patient is evidently moribund is unjustifiable and can serve only to bring discredit upon the profession and upon the operation.

The West Tennessee Medical and Surgical Association will meet at Jackson, May 22 and 23, 1902. This vigorous medical association is one of the best in the South. Its meetings are well attended, and the papers and discussions are of peculiar interest to physicians in this section. An interesting program is being prepared and a good attendance is expected at the approaching meeting. Reduced rates, on the certificate plan, will be offered by all railroads entering Jackson. Titles of papers or reports of cases should be forwarded at once to the Secretary, I. A. McSwain, M.D., Paris, Tenn.

The Committee on Pathologic Exhibit for the American Medical Association is anxious to secure materials for the coming session at Saratoga, June 10th to 13th inclusive. Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the committee, and due credit will be given in the published reports.

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Memphis Medical Monthly

Memphis Medical Monthly, established as the *Mississippi Valley Medical Monthly*, 1880
Memphis Lancet, established 1898.

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THE SIXTY-NINTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

ON April 8, 9 and 10 was held in Memphis the sixty-ninth annual meeting of the Tennessee State Medical Society. This meeting was very well attended, and a number of papers, the quality of which was of a superior order, were read. One of the most notable features of this meeting was the expeditious manner in which the business of the Society was disposed of. The presiding officer, Dr. Deering J. Roberts, of Nashville, possesses executive ability of an order far superior to the average officer in a similar capacity, and at no time did he permit the discussion of papers or the disposition of routine matters to drag. Nothing contributes more to the success of the meeting of a medical society than to have its affairs promptly discharged.

At this meeting the Society was reorganized in accordance with the plan of reorganization of the American Medical Association, which plan we have fully discussed in a previous issue of the MONTHLY. We are pleased to state that no effort was made to establish a State Society medical journal as contemplated in the original provisions for official business at this meeting, but we do not doubt that the matter will be brought up at a future session of the Society. We trust, however, that the members of the Society will have in the

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meantime sufficiently weighed this question to arrive at the conclusion that such a venture would be unprofitable to the Society and without excuse for existence.

Nothing was done for the visiting members of the Society in a social way, and in fact we have every reason to believe that the arrangements for their comfort were not wholly commensurate with the demands, but this latter state of affairs was due to no fault on the part of the committee of arrangements, for the Society met at the time when the demand for accommodations in this city was at its greatest—race season, and no provision could be made to obviate the disadvantages to which the members of the Society necessarily submitted on this occasion. We trust that should the Society favor us in the future by again selecting Memphis as a place of meeting, we shall be enabled to remove the unfavorable impressions that may have been created by the experience of some of the members of the Society on this occasion.

COMMENCEMENT EXERCISES OF THE MEMPHIS HOSPITAL MEDICAL COLLEGE.

The annual commencement exercises of the Memphis Hospital Medical College were held at the Auditorium on Friday afternoon, April 25, at 2.30 o'clock. 171 young men were awarded diplomas in medicine. This is one of the largest classes that has ever been graduated from this institution.

The session of the College just closed has been one of the most successful of its existence, there having been in attendance during the past term 687 students. This does not equal the attendance of the previous year, which ran up to 750, but was no doubt due to the fact that the new College building was not completed on contract time, and the facilities were hardly adequate for the large number of students who desired to attend lectures at this College.

The new building of the College has now been completed in every detail, and provides one of the most complete and handsomest structures in the South devoted to the teaching of medicine. Provision has been made in the new building for the accommodation of 1000 students.

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EDITOR'S NOTES.

JOSEPH J. KINYOUN, M.D., PH.D., late director of the Hygienic Laboratory of the United States Marine Hospital Service at Washington, has accepted the directorship of the Biological Laboratories of the H. K. Mulford Company, Glenolden, Pa. This in itself bespeaks scientific advances as applied to antitoxins and vaccines. Dr. Kinyoun is a student in original bacteriological research, and from his work we feel confident new therapeutic and prophylactic agents will be involved. Dr. Kinyoun has made a study of the progress of serum-organotherapy and the investigation of infectious diseases. In the interest of the government he has visited the various bacteriological laboratories and scientific institutions of Europe and Japan; as its representative he has enjoyed special advantages in the study of bacteriology and allied subjects, under Profs. Koch, Behring, Pasteur and Roux in the Hygienic Institute and Institute for Infectious Diseases at Berlin, and Institute of Pasteur, Paris. He is widely and favorably known as a sanitarian and scientific investigator, and has been delegated on numerous occasions as special representative to international congresses. It is fair to assume that the high standard of the products of Mulford's serum and vaccines, under the direction of a man so singularly fitted for the place, cannot but be still further advanced.

DR. WILLIAM THOMPSON REDMOND, of Crockett Mills, Tennessee, was married to Miss Della Durham, also of Crockett Mills, Sunday evening, April 27, at 8:30 o'clock, at Crockett Mills.

THE MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY authorizes us to extend an invitation to eligible physicians of Shelby county to join the Society.

THE CHAIRMAN OF THE COMMITTEE OF ARRANGEMENTS for the Twenty-eighth Annual Meeting of the Mississippi Valley Medical Association, Dr. A. H. Cordier, has announced the dates of the next meeting in Kansas City, Mo., as October 15, 16, 17, 1902.

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THE M. J. BREITENBACH COMPANY, of New York, inform us that they have secured a final decree from the Superior Court of Middlesex enjoining Henry Thayer & Co., of Boston, from making or using in any way a wrapper made in imitation of the one which is used on bottles of Gude's Pepto-Magnan. The court also adjudges them damages commensurate.

DR. JACOB DEUTSCH, a well-known practitioner of Memphis, died at his home, 231 Madison street, April 17. Dr. Deutsch was a native of Austria, having been born at Moravia sixty-two years ago. Coming to America at the age of 27, the deceased has since been engaged in practice in Little Rock, Ark., and for the past twelve years in Memphis. Dr. Deutsch was a member of the Memphis and Shelby County and State Medical Societies and the Tri-State Medical Association.

A SYLLABUS OF BACTERIOLOGY has been prepared for free distribution by the Palisade Manufacturing Company, of Yonkers, N. Y. This brochure contains much valuable information concerning the technique of bacteriological examinations, and will be found highly useful to every practitioner who attempts this work in any degree. The colored plates illustrating the various bacteria are excellent samples of the lithographic art.

BOOK REVIEWS.

PROGRESSIVE MEDICINE, VOL. 1, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 452 pages, 5 illustrations. Per volume, $2.50, by express prepaid to any address. Per annum, in four cloth-bound volumes, $10. Lea Brothers & Co., Philadelphia and New York.

In this most recent issue of *Progressive Medicine* we are presented with the customary amount of excellent medical literature that is found in each volume of this admirable quarterly of progress in medical science.

In the current volume the surgery of the head, neck and chest is considered by C. H. Frazier; a section on infectious diseases by F. A. Packard deals with typhoid fever, tuberculosis and the various eruptive diseases; Floyd M. Crandall writes of the diseases of children; pathology is treated by Ludvig Hecktoen; laryngology and rhinology are written of by St. Clair Thomson, while R. L. Randolph considers otology.

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A MANUAL OF GYNECOLOGY for the use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant Professor in Gynecology, Harvard Medical School. New (4th) edition, revised and enlarged in one 12mo. volume of 402 pages, with 154 illustrations. Cloth, $1.75 net. Lea Brothers & Co., publishers. Philadelphia and New York, 1902.

Prepared with a two-fold object of giving to the student in clear and succinct terms the best methods for arriving at a diagnosis, and the most trustworthy therapeutics of the commoner diseases of the female pelvic organs, and to afford the general practitioner a practical work of quick reference, this book has gained for itself even greater popularity than the author had hoped would be its fate.

The plan of briefly and clearly presenting its subject matter has been carried out to the extent of presenting only such treatment as the author, in his large experience, has found to be of the greatest practical value.

The work will be found to meet every demand made for a manual that is concise and yet not too contracted in the character of its contents.

WHERE THE MAGNOLIAS BLOOM. A Tale of Southern Life. By Frederic Bacon Cullens. Published by the Abbey Press. London and Montreal. 114 Fifth avenue, New York.

The author has presented his readers with a dainty little volume which purports to treat of Southern life in some of its phases prior to and during the civil war. The story has no feature of unusual interest, but may prove sufficiently interesting to hold the attention of any one who has an hour or two of spare time for which they cannot find better employment.

DISEASES OF THE INTESTINES. Their Special Pathology, Diagnosis and Treatment, with Sections on Anatomy and Physiology, Microscopic and Chemic Examination of the Intestinal Contents, Secretions, Feces and Urine; Intestinal Bacteria and Parasites; Surgery of the Intestines; Dietetics; Diseases of the Rectum, etc. By John C. Hemmeter, M.D., P.D., Professor in the Medical Department of the University of Maryland; Consultant to the University Hospital and Director of the Clinical Laboratory; Author of a Treatise on "Diseases of the Stomach," etc. In two volumes. Volume II.—Appendicitis. Tuberculosis, Syphilis, Actinomycosis of Intestine, the Occlusions, Contusions, Rupture, Enterorrhagia, Intestinal Surgery, Atrophy, Abnormalities of Form and Position, Thrombosis, Embolism, Amyloidosis, Neurosis of the Intestines, Intestinal Parasites, Diseases of the Rectum, with plates and many other illustrations. Octavo, 675 pages. Published by P. Blakiston's Son & Co., Philadelphia, 1902. Price, Vol. II, $5 net. Set complete, $10.

In our review of the first volume of this monumental work we felt that we could hardly be sufficiently complimentary in our expressions of appreciation of its highly classical nature. This quality is emphasized in the second volume that is just from the press.

In this volume are embraced those pathological conditions that occupy the border land between internal medicine and surgery. The author leads us from a thorough study of the ever recurring subject of appendicitis through a discussion of tuberculosis of the intestine, intestinal occlusion, etc. Every chapter constitutes a distinct and exhaustive study of its subject, and is remarkably thorough in its systematic preparation, which is illustrated in the carefully arranged list of references that closes each chapter.

Illustrations of beautiful execution abound throughout the volume, and the letter press and the paper are in keeping with other admirable characteristics of the work.

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A PRACTICAL MANUAL OF INSANITY. For the Student and General Practitioner. By Daniel R. Brower, A.M., M.D., LL. D., Professor of Nervous and Mental Diseases in Rush Medical College, in Affiliation with the University of Chicago, and in the Post Graduate Medical School, Chicago, and Henry M. Bannister, A.M., M.D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Handsome octavo of 426 pages, with a large number of full-page inserts. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $3 net.

Modern methods of handling cases of insanity differ radically from those of a few years ago, and the study of insanity as a special field for investigation has progressed very rapidly. It is very necessary nowadays for the graduate in medicine to have some acquaintance with at least the rudiments of psychiatry, and the practitioner always feels very much better equipped when he has a more or less intimate knowledge of this interesting department of medicine.

Dr. Brower is well known for his work in connection with the study of the insane, and in this manual he has given us an intelligible, up-to-date exposition of such facts as are essential in even a rudimentary study of the subject of psychiatry.

MORPHINISM AND NARCOMANIA from Opium, Cocain, Ether, Chloral, Chloroform and other Narcotic Drugs; also the Etiology, Treatment and Medicolegal Relations. By T. D. Crothers, M.D., Superintendent of Walnut Lodge Hospital, Connecticut; Professor of Mental and Nervous Diseases, New York School of Clinical Medicine, etc. Handsome 12mo. of 351 pages. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $2 net.

The most widely prevalent and distressing of all the various drug habits undoubtedly is that of morphomania, and the rapid increase in the last few years of the practice of morphin using by habitués is such as to occasion universal alarm, and to imperatively demand attention from the medical profession and our law makers.

Dr. Crothers is regarded as an authority of unquestioned repute in the study of the various drug habits which are becoming so common, and the medical profession will welcome a work of the character that he has prepared. In this book Dr. Crothers has not confined his attention to the discussion of the subject of the abuse of opium and its derivatives, but likewise considers the habitual use of cocain, ether, chloral, chloroform and other narcotic drugs. He groups general facts and outlines some of the causes and symptoms common to most of these cases, and suggests general methods of treatment and prevention. The work will prove interesting to any reader, and is highly instructive in the details which can so advantageously be used by the medical profession.

MANUAL OF CHILDBED NURSING, with notes on infant feeding. By Charles Jewett, A.M., SC. D., Professor of Obstetrics and Diseases of Women, in the Long Island College Hospital. Fifth Edition, revised and enlarged. Price 80c. E. B. Treat & Co., 241–243 West 23d street, New York.

The object of this book is to furnish the nurse with a practical teaching manual, comprising the most important features of hospital training. In carrying out this plan condensed paragraphs have been adopted, and the author has thereby succeeded in supplying within a small compass quite an amount of useful information. The little volume goes beyond the scope suggested by its title, and considers also the subject of the care of the child, artificial feeding, etc. The work will be found amply sufficient to fill the requirements for which it is intended.

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ORIGINAL ARTICLES.

EPIDEMIC CATARRHAL ICTERUS AS A COMPLICATION OF PREGNANCY.*

BY F. J. RUNYON, M.D.
CLARKSVILLE, TENN.

ICTERUS, simple, uncomplicated, catarrhal icterus, is a self-limited disease and a disease which I have never known terminate seriously. During the fall and winter of 1899 I had about twenty cases of this form of jaundice. These cases occurred principally in young or middle-aged and previously healthy people. The majority of these were males. Of those affected I had one man, white, aged 62, and a woman, negro, aged about 82 years. Naturally I felt more uneasy about these than the younger ones on account of the possibility that the disease was not of a simple nature. These cases recovered, however, about as as soon as such cases in younger people, though they were more prostrated by it.

The symptoms of those affected with this form of jaundice were those familiar to you all. The temperature was usually about 99°F. The duration of the disease was ten days to eight weeks. In one instance a patient had a similar attack a year previous, the first attack being the more severe. So one attack does not confer immunity to others. Two more cases occured in three families.

* Read before Tennessee State Medical Society, Memphis, April 9, 1902.

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In the eighteen years of my practice, having seen many cases of catarrhal icterus and no dangerous symptom in any, I was not alarmed when I was called to see:

Mrs. A., white, and found she had catarrhal jaundice, she being at that time eight and a half months pregnant. Her surroundings were good. She was 24 years old, mother and father living and healthy. She had always had good health and had one child, aged 18 months. This was her second pregnancy. Her temperature 99, pulse 76. Her principal complaint was of the nausea and vomiting. She had no appetite. Her bowels, as is usual in such cases, were constipated. Kidneys acting well and urine contained no albumin. I prescribed phosphate soda according to need, and oxalate of cerium and pepsin for the nausea. She was advised to keep her bed. Two days later, Oct. 25th, I again saw Mrs. A. This was about 1 P.M. She had been growing worse all day, and said everything looked to her as if covered with polka dots. This amused her and her mother but alarmed me. She had no other symptom except the drowsiness to occasion uneasiness. Her bowels had never acted satisfactorily and I ordered full doses of sulphate of magnesia. At seven o'clock that evening I was called hurriedly. On reaching the house the mother told me her daughter had been very stupid all afternoon, sleeping nearly all the time. She would rouse occasionally and call for the bed-pan, thinking her bowels about to move, and that she had been upon the vessel almost constantly. Just before I was called her mother thought she would remove the pan, when, to her great astonishment, she found the child born, dead, and lying over it. I found the patient in a comatose condition. She could with difficulty be aroused, but not sufficiently to answer a question. There was no difficulty in delivering the placenta.

At this juncture Dr. M. W. Ellis was called and was with me until the death of the patient about ten o'clock the next day. In spite of our efforts the coma deepened, the breathing became stertorous, the pulse gradually increased in frequency and she died from toxemia the following morning. Her temperature was never very high. During the night I catheterized her, drawing off eight ounces of urine. This contained no albumin, but I am sorry to say was not examined microscopically. No postmortem was held.

I afterward regretted that I did not freely bleed the patient and then use a liberal amount of normal salt solution. Theoretically the remedy is indicated, for, according to the investi-

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gations of v. Limbeck[1] icteric blood is deficient in sodium chloride due to lack of this salt and to a reduction of the volume of serum. Furthermore the abstraction of blood in some toxemic conditions has seemed sufficient to relieve the patient, and Pilutti[2] states: "When an animal's blood was loaded with a given quantity of poison and the animal doomed, it could be saved by bleeding, which, by drawing off poison at the same time with the blood rendered non-mortal the toxic dose circulating in the economy." Then too, "Bouchard[3] has demonstrated that one ounce of blood in a uremic patient removes more injurious matter than 280 grams of diarrheal liquid, or 100 litres of sweat," and many of us I am sure have seen remarkable improvement follow phlebotomy in puerperal eclampsia. It has been suggested that the symptom group, cholemia, may in some cases be due to uremia[4]. In addition to this Damsch and Kramer[5] report a case of jaundice in which there was marked psychosis and the case simulated acute yellow atrophy. On the eighth day the symptoms grew worse, the jaundice deepened, there was hemorrhage from the various mucous membranes with collapse and alternation of stupor and excited delirium. Leucin and tyrosin were not present, and the size of the liver was apparently normal. The most astonishing improvement with ultimate recovery followed upon the subdermal use of one and a half litres of normal salt solution.

Case II. Negro, aged 35, sixth pregnancy, seven and a half months advanced. Hygienic condition, good as usual with negroes. This woman had not been well for weeks, having had a great deal of trouble with her stomach. I had thought a gastric ulcer possible. About ten days after the onset of jaundice she vomited about a pint and a half of blood and about a pint the next day. Aside from the gastric symptoms which gradually disappeared the jaundice pursued the usual course, pregnancy not being interrupted.

I do not know whether the jaundice had any causative relation to the hemorrhage, but suspect it may have. Could the loss of this blood have had anything to do with the continuation of pregnancy?

Case III. Mrs. M., white, aged 35, sixth pregnancy. Family and personal history and hygienic condition good. Pregnant seven and a half months. I was called Dec. 9th, patient

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up and about, but with the usual symptoms of catarrhal jaundice, the disease having appeared 4 or 5 days before. Dec. 10, labor pains began and labor was terminated in a natural manner. Convalescence uninterrupted. The child, though very small, lived.

Case IV. Called to see Mrs. S., white, aged 24, Dec. 19th. Family and personal history and hygienic condition good. First pregnancy. She was seven to seven and a half months advanced. Had been jaundiced about one week. She was having slight labor pains. Normal labor. The following day temperature rose to 104. She had fever four days, the fever gradually subsiding. The child was very small and feeble, and rather to my surprise lived. There was no tendency to hemorrhage in any of these cases. I mention this from the well known fact that hemorrhage following operations in those who have suffered long from jaundice is often excessive and may be difficult to control.

From the literature on this subject, and from the fact that these cases occurred in epidemic form; that the disease was self-limited; that sometimes two or more cases occurred in the same family; that when it complicated pregnancy there was a tendency to premature labor and a liability to greater virulence in the disease, thus following the law of infectious diseases when complicating pregnancy, I judge the disease evidently to be of an infectious nature. For as Dorland[6] states, "It is well known that certain diseases that are rampant in the maternal system find ready access into the placental circulation, where they quickly accomplish their work of destruction and terminate the incipient human life. Such are the exanthems, which appear to be especially prejudicial to fetal existence, and in addition assume an unwonted virulence in the presence of gestation, whereby their morbidity and mortality are essentially increased. This is equally true of most germ diseases."

Mester[7] gives the following causes of icterus gravis: (1) Mechanical occlusion of the lumen of the cystic and common ducts by calculi, hepatic growths, enlarged head of the pancreas, carcinoma of duodenum, tumors of the transverse colon, etc., (2) Acute yellow atrophy, (3) Terminal stage of atrophic cirrhosis.

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To these should certainly be added, pregnancy, when coincidently there occurs epidemic catarrhal icterus.

For a report of three most interesting cases of jaundice complicating pregnancy and a limited bibliography upon this subject, I refer to the paper of Dr. W. B. Young.[8]

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HOUR-GLASS STOMACH, WITH ILLUSTRATION.*

BY M. GOLTMAN, C.M., M.D.
MEMPHIS.
Visiting Physician to the City Hospital.

In this specimen of "hour-glass stomach" you will note that the constriction is about midway between the cardiac and pyloric openings. Two fingers can be pushed through this constriction. You will also note that there is considerable thickening in and about the area of constriction, and just where this kinking or "hour-glass" condition is most marked, an ulcer is seen on the internal surface. The entire internal surface of the stomach has been closely inspected, but no other area of ulceration or inflammation was noted. From the well-nourished condition of the body—it having been one of the finest specimens of negrohood I ever saw—it is safe to presume that neither the healed ulcer nor "hour-glass" condition of the stomach interfered with nutrition. The man was about 50 years old and unconscious when admitted; no history was obtainable, and he died of pernicious comatose malaria, as shown by blood analysis. This rare condition of "hour-glass stomach" was an accidental finding. My interne, however, Dr. Minor, had carefully and correctly outlined the dilated condition, for which he deserves considerable credit, for it was most accurate.

* Read before the Memphis Medical Society.

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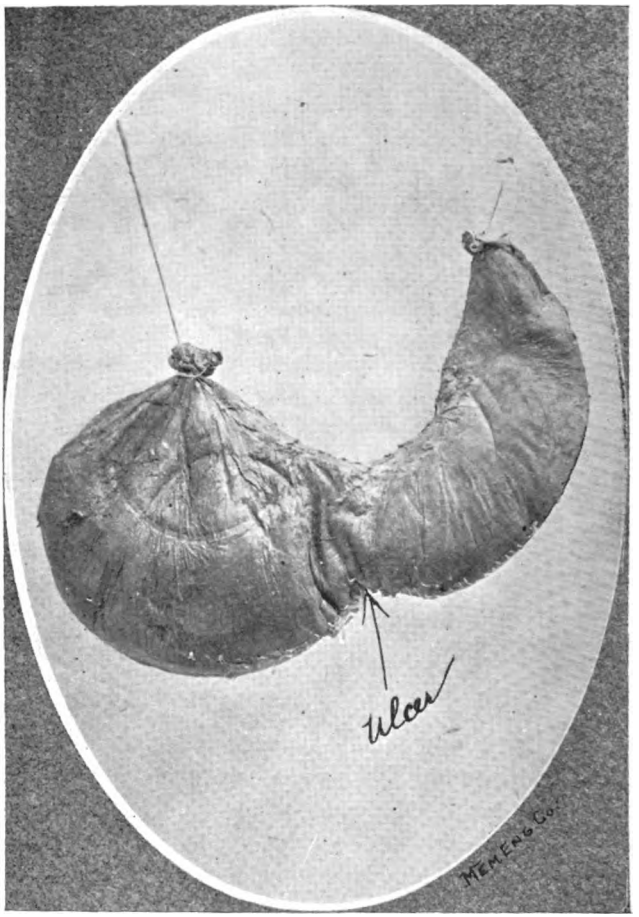

Ulcer, new and old, is the most common cause of "hour-glass stomach" in the acquired form. Other causes of this form are cancer, adhesion to other organs resulting from the various inflammations, and cicatrices following the ingestion of caustic chemicals. There is also a congenital form, which is recognized by the symmetrical contour of the constriction and by the absence of any pathological lesion connected with it. There are twenty cases of congenital hour-glass stomach reported (Watson). The situation of the stricture in these twenty cases was as follows: In the middle, seven; at the

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junction of the upper and middle thirds, three; at the junction of the lower and middle thirds, four; not noted, six. Five of these allowed the passage of a leadpencil, five the passage of the index finger, six the thumb, and two the passage of three fingers. The ages ranged from 25 to 73. In eight cases in which the sex was noted, seven were women. There is practically no symptomatology in these cases, as far as the reports go.

There are fifty-five cases of acquired hour-glass stomach recorded (Watson). Twenty of these were cases in which no operation was performed. In thirty-five cases various operations for the relief of the constriction were performed, resulting in seven deaths. Gastro-enterostomy was done in three cases; gastro-plastic, seventeen cases, and three deaths; resection of constriction, one case, with one death; gastro-anastomosis, six cases, with one death; inversion of ulcer, one case, with one death; establishing gastric fistula, one case, with one death. *The symptoms, generally speaking, may be said to be those of benign stenosis of the pylorus, together with some of the symptoms referable to the most common cause of the condition, viz., gastric ulcer.*

In three of the congenital cases, it is definitely stated that no stomach symptoms existed. There is no such example in any of the acquired cases.

Regarding diagnosis of this condition as distinctive from that of pyloric stenosis, Wölfler's observations may be of service. Wölfler noted at times that fluid injected into the stomach, instead of returning through the irrigating tube, seemed to suddenly disappear, as though it had flowed through a large hole; his suggestion being that it had passed through with the second division, where the end of the tube lying in the first division did not reach it. Again, after the stomach had apparently been washed quite clean, there would suddenly be returned through the tube a quantity of partially digested food, which presumably had regurgitated from the second half of the stomach back into the first, and so gained access into the tube there.

Eiselberg adds still another important diagnostic observation. He noted, after injecting a quantity of fluid into the

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stomach, the left side of the epigastrium became distended, and then a moment or two later this swelling partially subsided, while at the same time there appeared an enlargement of the right side of the epigastrium — these changes being accompanied by a gurgling sound, such as is made by air and liquid being forced through a narrow opening.

Insufflation has been practiced by Bouveret for diagnostic purposes. The X-ray may be used for the same purpose, and lastly, exploratory laparotomy is recommended. Watson believes the latter measure to be as safe, if not safer, than some of the other measures, and hence recommends it.

Of the twenty non-operative cases, seventeen were women. Of the symptoms vomiting was the most constant; hematemesis did not occur in any case in which gastric ulcer had not existed. Free hydrochloric acid was present in most cases, but is definitely stated to have been absent in one.

Gastric pain is, next to vomiting, the most frequent symptom. Thus it will be noted that the symptoms are chiefly referable to the ulcer, rather than the constriction. The two divisions are usually dilated, as was noted in our case.

A tumor, or sense of increased resistance, may be observed as a result of adhesions and cicatrices when present. The constriction in the acquired cases is usually central, and very slight ulceration is sufficient to produce it, as can be noted in our case.

Surgically speaking, the hour-glass stomach has existed only since 1892, when Kruckenberg did gastroplasty for the relief of the condition.

For the benefit of those interested in the subject, I most heartily commend the exhaustive article by Watson in the July number of the *Annals of Surgery* for 1900.

502 and 504 Randolph Building.

Immortality will come to him who is fit for it, and he who would be a great soul in future must be a great soul now.

Emerson.

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PATHOLOGICAL TONSILS, WITH SOME CONSIDERATION OF TREATMENT.*

BY RICHMOND McKINNEY, M.D.
MEMPHIS.
Laryngologist to East End Dispensary and to Presbyterian Hospital.

UNDER the title adopted it is but natural that I should first call attention to the ordinary glandular enlargement, commonly called hypertrophied tonsils. These hypertrophies should properly be classed under two headings, the hard and soft varieties. In the former we find histologically that there is considerable plastic thickening of the connective tissue, which gives to the tonsil that characteristic peculiar hard feel, and makes it so resistive to the progress of the blade of the cutting instrument in amputation. The latter variety represents a true cell proliferation, and, lacking the thickened connective tissue formation of the former, is therefore much softer in consistence. We find in practice that the hard variety is commoner in adults, while we may expect to encounter the soft variety more frequently in childhood. But it matters not what variety of hypertrophy is present, both play practically the same rôle in the causation of ill effects in the physical economy, and the indications for treatment are identical in both varieties.

The active causative agent in the production of these glandular hypertrophies is still an unknown quantity, for despite the numerous and oftentimes vague theories that have been advanced as to the excitant factor in this condition, there is as yet no specified cause that has received general acceptation. The fact remains, however, that a peculiar lymphatic diathesis is frequently observed to run through an entire family, and in many cases it will be found that there are hypertrophies of the entire lymphatic ring, pharyngeal, faucial and lingual tonsils being concurrently enlarged. So far is this true, that in practice I almost invariably expect to find, where there is hypertrophy of the faucial tonsils in a child, that there will likewise be an enlarged Luschka's tonsil. This has been borne out with me by experience, and incidentally I will say that I

* Read before Medical Society of the State of Tennessee, Memphis, April 8, 1902

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have never been willing to unqualifiedly accept the statement that the removal of the pharyngeal tonsil will be followed by atrophy of those of the fauces, or vice versa, and I never fail to urge that both conditions be corrected at the one sitting, or with a short interval between the times of operation.

As illustrative of this fact, I will cite the following case:

About three years ago, Alger T., a boy aged 2 years, was brought to me with a history of mouth breathing and nocturnal terrors. Examination revealed a good-sized adenoid growth of the naso-pharynx. The faucial tonsils were but slightly enlarged. The adenoid was removed with a curette, and complete relief from all symptoms speedily followed.

A few days ago the same boy was brought to me with the history of having in the last few weeks developed symptoms similar to those above described. Examination showed hypertrophied faucial tonsils almost completely occluding the throat. These were removed. There was no evidence, on digital examination, of a return of the adenoid.

Here, it will be observed, the faucial tonsils took on marked hypertrophy after removal of the adenoid. I have never seen another similar instance.

It is a matter of common observation to you all to remark upon the physical deformities that are produced by hypertrophy of the faucial tonsils. The mouth-breather is a frequently noticed member of our communities, and the small boy, with his keen observation and more or less sharp wit, has denominated such individuals "fly-catchers." It is very true that this condition is frequently the result of hypertrophy of the pharyngeal tonsils, but it is also quite likely to be produced by a similar condition of the faucial tonsils. The evil consequences of this mouth breathing are well known to you. The pinched nostrils, poorly developed chest, bronchial troubles and general catarrhal condition of the entire upper respiratory tract are sequences too common to need much exploitation at my hands. Many of the instances of enlarged lymphatics of the neck in children also may no doubt be traced to some form of chronic tonsillar inflammation.

To us as physicians this condition of hypertrophied tonsils raises no question as to treatment, for we all know that early and thorough removal is the only rational procedure to be

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adopted in these cases. Internal medication here is a fallacy of which modern practitioners should not be guilty. It would be as erroneous a supposition to think that this hyperplastic or proliferative condition could be reduced by the administration of some of the vaunted medicinal agents of the past, as it would be to believe that shrunken ovaries could be restored to their former condition of active fructifying power by the administration of one of the latest agents in animal therapy-ovarian extract. But when we advise removal of the tonsils to the parents we are met with arguments, and at times strenuous opposition, born of ignorance on their part. Too familiar to us is the oft-quoted expression, "If God put them there, why should they be removed?" This argument is of course amusing to us, but at times is very irritating on account of its persistence and recognition by parents and patients as of sufficient potence to occasion refusal to permit employment of the operation. Another question that is often propounded to me by singers is as to the effect of removal upon the singing voice. This is also a question that is not infrequently asked by others, who fear that even the speaking voice will be damaged by the removal of these hypertrophies. To this question I always reply that the range of the singing voice will probably be increased from one to two and a half notes, and that the speaking voice will be proportionately benefited. The improvement following removal of enlarged tonsils is too apparent to all who have observed these cases after operation for me to dwell at length upon that feature, but I am sure that every one present has had sufficient experience in this matter to advance arguments competent to overcome a prejudice against the operation born of the sheerest ignorance.

In operating for the removal of hypertrophied tonsils, there are always some considerations that should be borne in mind. The character of the growth, whether it be of the hard or soft variety, frequently influences me in the selection of the method of removal. In children it will be found that the most serviceable instrument in the majority of cases is some form of tonsillotome. It may be that some prefer the Mathieu, or one of its modifications, while others will use the Mackenzie, or, as used in preference by me, Mandeville's modification

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of Mackenzie's instrument. In young children the tonsils usually project, and are readily grasped by the instrument, therefore requiring none of the finer manipulations that are necessary in removing the tonsils in the adult. The chief requirement to be borne in mind is that sufficient of the growth be removed, for merely slicing off a portion of the hypertrophy will not suffice, and should one depend upon the shrinkage which some claim follows such superficial removal, they will find, much to their disappointment, that no such change takes place, and enough of the old diseased organ will remain to occasion future trouble, and be the seat, perhaps, of various attacks of follicular tonsillitis.

As to the question of giving a general anesthetic in these cases, except in very young children, this is something that I rarely ever do, for I find that operating when the child is under general anesthesia is attended oftentimes with difficulties, is more or less dangerous, and really quite unnecessary. While there is some pain attendant upon removal of the tonsils, it is slight and transitory, and if the child is well held, the operation can so speedily be performed that the little patient will hardly realize that it is being done. This method of operating is also carried out by me in operating for adenoids, for while such an operation is more impressive to the parents when done under general anesthesia, and, as a colleague once remarked to me, they are more ready to pay the fee when the preliminaries leading up to general anesthesia are gone through with, I have never felt justified in running the attendant risk in performing an operation that can readily be done under other circumstances. If the child is quite young and uncontrollable, I administer a few whiffs of chloroform to the patient in recumbent posture, and then rapidly perform the operation.

The removal of enlarged tonsils in the adult presents quite a different question, for in most of these cases we have to deal with the hard variety of tonsil, and must always be impressed with the possibility of a severe if not dangerous hemorrhage following removal. Further, the tonsils are often lobulated, so to speak, and are much longer than they are broad, and nearly always are bound to the anterior and posterior faucial pillars by adhesions. Cocain anesthesia will serve to obviate

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pain to a certain extent in operating in the adult, but it is very difficult, if not impossible, to secure by local means a sufficient amount of anesthesia to render the operation entirely devoid of pain.

In the removal of hypertrophied tonsils in the adult, I rarely ever resort to the use of the tonsillotome, unless, as exceptionally is the case, the tonsils project sufficiently to enable the instrument to take a good hold upon as much tissue as it is desired to remove. It has been my experience that removal of tonsillar hypertrophy in the adult with the tonsillotome is not sufficiently thorough, a stump of considerable size usually being left after operation. My preference has always been for the cold snare, and lately I have begun to think that I will also use this method exclusively in operating on children. Bosworth, of New York, in a recent article,* states that for ten years past he has used nothing but the cold snare in removing hypertrophied tonsils. The cautery snare is clean and rapid, but there is considerable reaction following its employment, and it has no claim, in my opinion, to superiority over the cold wire. Before proceeding to encircle the tonsil with the wire loop, it is often necessary to break up any adhesions that may exist between the anterior and posterior pillars of the fauces and the tonsil. This is best done by means of some specially devised knife, such as the one that I

Beaman Douglass Tonsil Knife.

here show you. The loop of the snare is then carried over the tonsil well to its base, and when it is in position traction is steadily made until the growth is cleanly removed.

It has never been my experience to have a case of severe hemorrhage following removal of the tonsils, but where the hard variety of hypertrophy, with its free blood supply and patulous vessels is removed with a clean cut, one must always be apprehensive of some degree of uncontrollable hemorrhage.

Turning from simple hypertrophy of the tonsils, I would now invite your attention to the consideration of another

* Medical Record, vol. 61, no. 2.

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form of pathological tonsils, which is frequently seen by the general practitioner. I refer to the acute and chronic forms of follicular tonsillitis. The first of these conditions is commonly seen during our inclement fall and spring seasons, and it assuredly is a painful and depressing disease. It is useless for me to describe the condition to you, for there is not a physician in this room who has not frequently been called upon to treat attacks of this affection. Here again the question of internal medication will present itself, and I run the risk of being called an extremist in stating that I likewise in this disease have never seen a noticeable degree of benefit follow its treatment by internal measures. When a case of this character presents itself to me, I invariably adopt measures of local treatment that are always followed by marked benefit and speedy relief to the patient. Taking a small curette, I press upon each of the crypts containing the cheesy débris, which is the breeding place of microörganisms giving rise to the acute infectious process, until the contents are extruded. Frequently I follow this with destruction of the intervening crypt walls with a tonsil knife. I then paint the inside of these follicles with the pure tincture of iodine, followed by a 50 per cent. solution of guaiacol in olive oil.

The value of this method of treatment is illustrated in the following typical case:

Mr. C. B. came to me one afternoon complaining of intense pain in the throat and a sensation of general malaise. Examination revealed the characteristic whitish deposits in the crypts of both tonsils, accompanied by intense congestion of these organs. He had a temperature of 101°F.

After cocainizing the tonsils, I expressed from each follicle the decomposing matter contained therein. The tonsils were then painted with tincture of iodine, followed by guaiacol in 50 per cent. solution. On sending the patient home and to bed he was instructed to take the customary dose of calomel on retiring. When seen the next day at noon the patient was entirely free from fever, and the tonsillar inflammation had completely subsided. He expressed great satisfaction over the speedy abortion of the attack, as he stated that he was frequently subject to this disease, and that he had never before been clear of the symptoms under from three or four days to a week.

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But it is the chronic form of follicular tonsillitis that will interest us mostly, for the acute attacks usually subside within a few days and cease to further trouble the patient. In chronic follicular tonsillitis, however, there is marked persistence and a tendency to recurrence. This is best met by some procedure which is calculated to destroy the site of the disease process. To do this it is necessary to break down the crypt structure of the tonsils. This may be done by passing a small knife, such as I have shown you (*vide supra*), from one crypt to another, thus dividing the wall between, and then using a chemical cautery, such as chromic acid, to complete the destruction. But a favorite method with me is the use of the electro-cautery. Taking a small cautery point, I pass it rapidly from one crypt to another, breaking down the intervening structure, and after the entire tonsil has been thus treated, sloughing of the cauterized area will follow in a few days, leaving a smooth, cicatrized surface, no longer presenting a field for the development of microbic toxins.

The following case is illustrative:

Miss H. G. consulted me in March, 1901, complaining of sore throat, and giving a history of being subject to attacks of tonsillitis every winter. She also said that she experienced a sensation of "fullness of the throat."

On examination I found her left tonsil to be hypertrophied and ragged, with the crypts full of cheesy débris. The right tonsil also presented a ragged appearance, but was not so considerably involved as the left. There were a number of enlarged follicles on the naso-pharynx.

Under cocain anesthesia, with the electro-cautery I destroyed both of the tonsils in several sittings, at the same time cauterizing the hypertrophied follicles of the naso-pharynx. After sloughing, the throat was left in a perfectly smooth and healthy condition.

Recovery was complete, the patient having since been quite free from the symptoms mentioned.

There is a variety of soft tonsil encountered in the adult that frequently awakens my suspicion. It is pale, flabby, and the tissue seems lifeless and almost necrotic. These tonsils I have generally regarded with suspicion as to their tubercular character, and I always treat them by active cauterization with the electro-cautery, which is usually followed by an

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improvement in the tissue forming the base of the tonsii, showing the purely local nature of the trouble. This method of destroying the tonsils I also use in some cases of simple hypertrophy, where the tonsils are soft and not readily seized by the snare or tonsillotome.

While peritonsillar abscess may not be strictly within the scope of my present paper, still I feel that it is a condition of such pertinent interest that I cannot refrain from making a few remarks along this line before closing.

Investigation has shown that quinsy is the result, in most instances, of streptococcic infection, and it has been my observation that most of the acute infectious phlegmons of the throat are due to this active and virulent germ.

No affection of the throat is quite so painful as peritonsillar abscess, and I may state also that I have found no condition of this region that is so difficult to relieve. The cases in which numerous incisions into the tonsils have failed to bring pus are almost equal in number in my experience to those where the knife has been followed by a discharge of this material. It cannot be said in this connection that I have not followed the route for incision that is generally given preference, for I have frequently not merely confined my attention to one point of incision, but have punctured at every available site. This should offer consolation to some of you gentlemen who have undergone a similar experience, for no doubt many of you have been recriminating yourselves with lack of skill in opening these abscesses. I believe that a number of these cases never go to pus formation, but the inflammation reaches a certain degree and then begins a retrograde process. I find, however, that those cases which, in my opinion, have not formed pus, require considerably longer for complete resolution than do those which form an abscess and are opened or else open themselves, which latter they not infrequently do.

In seeking for a point of election in opening a peritonsillar abscess, it should be observed that most of these cases point toward the supratonsillar fossa, which lies just between the anterior and posterior pillars of the fauces. The abscess usually lies nearest to the surface at this point, and those cases

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which have opened of themselves, will almost always be found to have ruptured at this site. The knife should be passed freely down into the tonsil at this point, and if pus has formed it will nearly always follow a deep incision made in this locality.

Lyceum Building.

Discussion.

Dr. G. H. Price, Nashville: I have listened to the reading of this paper with considerable interest. Cases such as described by the essayist are constantly coming under the observation of the general practitioner as well as those engaged in this special line of work. The Doctor has called attention to several conditions, namely the development of tonsillar tissue in the vault of the pharynx, the faucial tonsil and the development of peritonsillar abscess. There is no question but that these conditions, from the very beginning, require considerable attention and are only relieved finally by such measures, in a large number of cases, as he has called to our attention, namely operative interference. It is a question that arises in the mind of every operator or specialist, whatever his field of work, as to the method of procedure in these cases. An enlargement of the naso-pharyngeal tonsil is not infrequently found in children, and below the age of 10 years we know it is very common. It is generally accompanied also by an enlargement of the faucial tonsils. The method of procedure in these cases must be governed largely by the case in hand. We are not infrequently met, as the essayist has stated, by objections on the part of the parents of the patient and his friends in regard to operative interference. Operations on the post-nasal tonsil are usually simple enough, but sometimes they are not so easy. I have practically abandoned the use of instruments in this region. The most reliable instrument that I can employ is the finger. This doesn't disturb the child very much, and we are sure of the locality, extent and character of the tissue we are dealing with. With the finger well guarded with a strip of adhesive plaster, or a protector inserted into the child's mouth, I can pass my finger over the enlarged area, break down the tissue and know just how much I have done. Many of the instruments devised for this operation I have seen tried, and tried them myself. Other men may be more successful with instruments than I am, but I have seen operations fail with them. In children it is not an easy matter to operate except under a general anesthetic. It is difficult to hold the child in the proper position, and the hemorrhage seems large in amount and serious to the parents, and they call upon you to stop the operation, whereas if you introduce the finger you can with a few quick and concerted movements rapidly break down the tissue and the child is freed of the mass.

Operative procedures on the tonsil depend largely upon the skill of the operator.

Of the instruments I should prefer the Mathieu guillotine. With this instrument the operation is quick enough to prevent apprehension on the part of the parents. Some prefer the Mackenzie tonsillotome. The methods described by the essayist are such as we have all tried more or less, with some slight variations, according to preference of the operator. I have not tried the cold snare, but have used the Mackenzie instrument. I don't always depend upon instrumental measures. I have seen a number of cases where the parents

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objected to intruments, and under proper treatment these children have been almost entirely relieved.

Operations upon the adult I always approach with some degree of trepidation. The best method is with the cold snare, especially if the tonsillar tissue is lobulated. I have had some little experience in this particular, and recall a case in which a small portion of the growth projected into the faucial cavity and which I removed by the guillotine. There was little or no hemorrhage at the time of the operation, but four or five days later a hemorrhage started and continued for five or six hours. In operations on the throat and nose the preparations which will largely mitigate hemorrhage are the adrenaline chloride, or aqueous solution of the suprarenal gland. Operations for the purpose of reducing and controlling forms in which the crypts are largely involved I have often seen, and many times heard men who lecture on the subject advise the reduction by cutting down the partition walls between the crypt and the tonsil. I don't believe that is the best thing to do. I clean out the crypts and treat with iodid of potassium, iodine, or trichloracetic acid, and the patient almost always recovers without serious reaction. I don't believe in removing the tonsil as a whole unless the case urgently demands such a procedure. In regard to peritonsillar abscess, I have never seen one start that didn't go on to suppuration.

Dr. J. B. Cowan, Tullahoma (to Dr. McKinney): Have you ever found hemorrhage troublesome in very young children?

Dr. Edward C. Ellett, Memphis: We will agree in the main to the points brought out, but we all have our peculiarities and may differ in some part as to what has been said. In regard to enlarged tonsils causing mouth breathing, I believe that in over 95 per cent. of the cases we will find mouth breathing due to associated adenoids. The main symptom of enlarged tonsils is a recurring tonsillitis. For this condition we can operate, and usually give relief. Like Dr. Price, I prefer the modification of Mathieu's instrument, with changeable blades. We all agree that local anasthesia is generally sufficient for tonsillotomy, but for the removal of pharyngeal tonsils in little children I prefer general anesthesia. Ether I consider the safer anesthetic in these cases, regardless of what is said for and against it as a general anesthetic. It has two disadvantages, in that it causes an increased secretion of mucus, and greater hemorrhage follows its use for operations on the upper air passages. These disadvantages can be overcome, and its greater safely offsets them. I am one who prefers instruments. I always operate on anenoids with forceps, and feel that I do a better and cleaner operation than with other means. I make a digital examination before and after the operation. The great objection to the cold snare is the intense pain it causes—it is tremendously painful to remove a tonsil with the cold snare. In one case where I removed the tonsil with the cold snare in an adult I had a hemorrhage lasting four hours, and only controlled it finally by pressure. I am subject to attacks of acute tonsillitis, and since beginning the practice of medicine I have tried the various remedies in vogue. The most satisfactory treatment I have found on myself is a mixture of the chlorate of potash, tincture of chloride of iron, glycerine and water. This mixture I give to patients with directions to swallow a half teaspoonful every half hour. This plan thoroughly applies it to the throat. Results with this treatment have been

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better than anything I have tried. In incipient cases I use guaiacol and strong solutions of nitrate of silver, and think I have aborted attacks with this. In regard to peritonsillar abscess, I recently read a paper before our local society in which I showed that, while in the majority of cases the streptococcus was present, in quite a number the staphylococcus and pneumococcus were present. Since reading that paper I have seen a few other cases which gave the same results. Opening these abscesses through the peritonsillar fossa is by far more satisfactory than by endeavoring to find them with the knife, and it is also more certain. By using a blunt instrument, such as I showed on the occasion of reading my paper, preceded by a puncture, if necessary, this instrument can be forced into the fossa through the fascia lying back of the tonsil, evacuating the abscess with a minimum amount of pain.

Dr. Fenton B. Turck, Chicago: The awful effects of mouth breathing due to tonsillar enlargement are constantly brought to the attention of the general practitioner. While talking on the subject of infections of the faucial tonsil, no mention has been made of the very important co-related pathological conditions of the stomach. As mentioned by Dr. Ellett, there are three microörganisms found, though the streptococcus is the one which most frequently produces an abscess. We have long been clinically acquainted with the relation between the general disturbances of nutrition and infection of the tonsil, but no scientific data was brought forth until 1895, when a long series of investigations covering a period of three years was brought out, and it was found that the same microörganism was found in the tonsil that is found in the stomach. In a gastritis the condition was found due to the same microörganism that is found in the throat. Cultures were made from the throat as well as the stomach. No general treatment was given, but the patient was referred to a specialist, who examined the throat, and another bacteriological examination was made in each case After thorough disinfection, destroying the follicles, removing the tonsils and destroying the area of inoculation, the entire symptoms clinically changed—the emaciation induced by the gastro-intestinal disturbance disappeared and the bacteriological examination of the stomach showed the growth of microörganisms on the walls of the stomach—the pneumococcus, the staphylococcus, and the other forms which had been found imbedded in the walls of the stomach, had entirely disappeared. Therefore, this paper was largely quoted. Many pathological conditions arising from chronic infection of the faucial tonsils were frequently due to this secondary infection. The tonsils had become incubators ready to carry infected food down into the stomach.

Dr. G. C. Savage, Nashville: There is a reason for operating when there is interference with faucial respiration that applies to girls more than to boys. When the incisors in the upper jaw, and not infrequently in the lower jaw, point forward, it gives the patient a hideous appearance. If these cases of mouth breathing can be operated on early this deformity will not occur. I believe it is best to operate on faucial tonsils with the Mathieu tonsillotome. If the fork has a barb on it that ought to be filed away, for it is often necessary to withdraw the fork and cease operating, and if the barb is there we cannot withdraw it. In enlarged pharyngeal tonsils, for the past twenty years I have used absolutely nothing in removing them but the finger and the hand. In

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this way we can accomplish just what we want to do. I have been bitten once or twice by boys. If, however, I cannot put confidence in the patient, I use a mouth gag and then introduce the finger into the mouth. I usually have an understanding with the parents that if after the examination I find the operation is indicated I shall at that moment be allowed to go on with it. That does away with a second introduction of the finger and annoyance to the patient. In regard to peritonsillar abscesses, Dr. Price says he never saw a case aborted. I have. I believe I have seen several in early stages, and nearly all were aborted. I didn't think so at that time, but I do think so now, and my experience confirms me in this belief. We don't want to be too daring in resorting to a method of treatment. I use two drams of nitrate of silver to the ounce, and apply it all over the surface, and in several instances I have seen cases aborted. In a case recently of a patient who had gone through frequent attacks of peritonsillar abscess, Dr. Price spent part of a night with him. This man intended to start on the 9 o'clock train that night for Texas. I saw him between 11 and 12 o'clock and made an application to his throat and expected to see him in the morning, but when I went around to the house he was far away on his journey to Texas. He had had no further trouble after that single application. This application can be made without unnecessary suffering. The cotton is wrapped tightly around an applicator, dipped into the solution and rubbed over the inflamed area. In many instances I believe this is capable of aborting peritonsillar abscess, and it is a most effective treatment in follicular tonsillitis.

Dr. McKinney, closing: I am highly gratified at having read a paper that has succeeded in evoking so much discussion. In the discussion many details have been brought out which, had my paper been intended for an audience of specialists rather than general practitioners, I should naturally have treated more thoroughly.

With regard to the method advocated by Doctors Savage and Price, of removing adenoids with the finger nail, finger nails certainly must grow longer and stronger in Nashville than they do in Memphis, for I have never been able to satisfactorily remove an adenoid growth in this way, and prefer the curette, because I believe it is cleaner and more thorough. Some few men use the finger nail, and are perhaps justified in doing so by their experience, but I prefer the cold steel. In performing the operation, as stated in my paper, I rarely ever use an anesthetic, and have no difficulty in thus operating. I have an assistant hold the patient, place a gag in his mouth, and in a few seconds the operation is completed. It may frighten the mother, and does frighten the child, but is a much safer plan, to my mind, than with the use of general anesthesia. No doubt adrenalin will prevent hemorrhage at the time of operating, but this latter will always supervene, and the reaction after the use of this agent is very marked. I never have any trouble at all from hemorrhage when removing the tonsils in children.

The method that I use in treating acute follicular tonsillitis I have dubbed the "one night tonsillitis cure," but it is better than the average "one night corn cure," inasmuch as it is nearly always followed by relief, which cannot be said of the other.

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The streptococcus, I think, is certainly the exciting factor in peritonsillar abscesses, the other microörganisms found in these cases being, I believe, incidental. Such a rapid form of congestion, attended with so much pain, it appears to me must be due to an active and virulent germ like the streptococcus. One method of operating on peritonsillar abscesses that I did not mention is that recently advocated by Moure, which is to incise the abscess with an electro-cautery knife. This has proven a satisfactory method with me in several instances.

PREVENTIVE TREATMENT OF RUPTURED PERINEUM.

BY C. L. SIMMONS, M.D.
M'BRIDE, MISS.

THE first thing to be brought into consideration is an indisposition to relax; second, the readiness of the tissue to tear; third, the size of the child. Slow or rapid labor plays an important part.

Some authors tell us we can prevent lacerations by placing our fingers on one side of the vulva and the thumb on the opposite side, with the palm against the perineum, protected by a napkin. I have paid special attention to over two hundred cases of obstetrics and I have found very little, if any, advantage is obtained by that method alone.

I depend largely upon my chloroform, for two reasons—first, to produce relaxation; second, to enable me to control labor. I consider these the most important in preventing laceration, though the anesthetic must be properly administered to get all good results. If you begin your anesthetic too early (as most of these patients will beg you to do), the nausea is increased and labor prolonged. I have met with twelve cases where there was a complete cessation of the pains, the result of chloroform.

I withhold my chloroform until the latter part of the second stage of labor. At this stage it may influence the pains only for a few moments, and labor proceeds. I administer it slowly until the soft parts begin to bulge, and then completely anesthetize. If the perineum is stretched to a feather's edge during the pains, I delay labor by placing my fingers on one side of vulva and the thumb on opposite side, with the palm against the perineum, pushing upward and backward until

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the pain ceases. I then try to work the presenting part over the perineum between the pains. After the head is delivered I pay special attention to the coming shoulders, raising the head toward the pubes, working the shoulder over the perineum, then lowering the head and allowing the opposite shoulder to glide beneath the pubic arch. The shoulders may be removed or delivered by placing the index finger in the axilla and making traction.

We can only look for laceration when we have more cases than time, by failing to administer the anesthetic properly, telling the patient to bear down, and placing one hand within the vagina, letting it remain during the pains between the vaginal wall and child's head, taking up the vacant space that should be occupied by the coming head, not giving presentation, position or attitude a thought, but giving dram doses of the f. e. ergot every half hour to force the child through the vaginal canal, like a piledriver does a post. I think many a laceration has been produced not only as a result of abnormal labor, but likewise by improper management.

GONORRHEAL RHEUMATISM.

BY J. DOUGLAS WESTERVELT, M.D.

SHREVEPORT, LA.

THE etiology of this disease has for many years given rise to much discussion without adding any reliable information on the subject under investigation.

The disease is recognized by many able writers as a toxemic effect of the gonococcus upon the general system, either by its presence in the circulation or that of the toxins of this microorganism. They maintain that the specific urethritis is the local manifestation of the microörganism, and the accompanying arthritis is a localized product of a general infection. They go as far as to claim that the synovitis is in no way related to rheumatism, and even discard the name under which the disease is generally known, calling it gonorrheal arthritis instead of gonorrheal rheumatism. The reasons set forth for such views, are, that the articular inflammation concurring

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with gonorrheal urethritis is different from that of ordinary rheumatism. These writers seem to ignore what is universally conceded, that the clinical features of a mixed disease are entirely different from the typical features of the diseases forming the complication. The fact that an articular inflammation associated with gonorrhea is dissimilar to an ordinary synovitis, furnishes no grounds for believing that these conditions have no inter-relation. It is claimed by these authorities that gonorrheal urethritis causes the articular disease, and yet they cannot explain the mode of action in producing the two forms of inflammation. If the pyemic theory is accepted, why are the joints alone involved? Why are not other tissues invaded? Why is the arthritis sometimes non-articular and sometimes polyarticular? Why should the large joints be more liable to invasion than the small joints, and why is the knee joint so much more frequently involved than others?

A general pyemic infection should not be so restricted in its operations. It is claimed in behalf of the pyemic theory that gonorrheal arthritis does not require for its production the usual exciting causes which invite rheumatic attack, but can anyone name any special exciting causes which invariably give rise to an attack of rheumatism? Gonorrheal rheumatism occurs most frequently in the early part of middle life; so does rheumatism. It occurs more frequently in males than females; this is also the case with rheumatism. Gonorrheal rheumatism occurs in only about two per cent. of gonorrheal cases. If the gonococci or their toxins provoke the articular inflammation, it seems strange that they do so in only one or two cases in a hundred of gonorrheal urethritis. According to the testimony of many trustworthy observers, the same forms of articular inflammation have been known to accompany urethritis not produced by the gonococcus. This weakens the theory of pyemic infection, and strengthens the contention of many writers of concurrent rheumatic disease as a dominating factor.

Furthermore, it is very rare to find pyemia or septicemia resulting from inflammation of mucous membranes, and if it should other contiguous structures would be likely to suffer as well as the joints.

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Is it possible that gonorrheal pyemia will produce gonorrheal rheumatism, and at the same time never cause pyemic disease in any neighboring tissues or organs? It is true that the pyemic theory is now more generally accepted than any other, but the clinical evidence upon which it rests will not bear a critical examination. It would seem, in the absence of any positive evidence to support the theory of pyemia, that accidental rheumatism, as an intercurrent complication, would be a logical inference in the determination of factors in gonorrheal arthritis. There is much more evidence in favor of this theory than that of pyemia, but the tendency of most writers to reason from the standpoint of an unwarrantable bias leads them to ignore every argument which refutes the theory of gonorrheal inflammation. They claim that the gonococcus has been found in these inflammatory lesions, but they overlook the fact that in the majority of cases it has not been found, and furthermore its presence does not prove that it causes the lesion.

The writer does not claim that all cases of arthritis in gonorrheal diseases are rheumatic, nor that the gonococcus never exerts any provocative influence over the arthritic inflammation. The main contention of this paper is that the variegated clinical history of rheumatism shows that it is a potent factor in many localized lesions, and there is no justification in a sweeping denial of its relationship to gonorrheal arthritis.

The symptoms of gonorrheal rheumatism during the course of gonorrheal urethritis are, a sense of uneasiness, aching, stiffness or lancinating pain in one or several of the joints. The knee is oftener involved than any other articulation, especially the left knee. Other joints may become consecutively or simultaneously involved. The articular inflammation usually develops in the later stages of gonorrhea, and often after the urethral discharge has almost entirely ceased. The articular symptoms arise gradually, without any alteration in the external appearance of the joint. As long as the affected part is at rest, there is not apt to be much pain, but the least movement provokes it at once. The inflammatory process is of a subacute type, and it never announces its advent with a chill, as generally happens in pyemic attacks. When

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the inflammatory attack reaches its culminating point, the joint may become distended and give rise to considerable effusion. The articular inflammation may run an indefinite course and last weeks or months. In these cases, if the effusion is of a fibrinous character, anchylosis may result.

In the treatment of this disease we must not lose sight of the fact that we have to deal with a mixed form of disease. We have the gonorrheal element confronting us, and we also probably have a rheumatic element to claim our attention. Besides these conditions we may also be required to treat the general health of the patient. If there is a urethral discharge, it must be treated; if there is a rheumatic condition, it must be treated; if there is an impaired state of the health of the patient, this also must engage our attention.

The local treatment of the articular inflammation will not differ materially from that of any inflammation of the joints. We must allay inflammation, stimulate absorption of effusions and restore normal functions of the articulation. There are many methods of accomplishing these objects. For the urethritis we may resort to instillations of permanganate of potassium, with the internal administration of cordial of codliver oil compound (Hagee), with five grains of iodid of potassium to each tablespoonful of this preparation; a tablespoonful to be given four times a day, after meals and at bedtime. The iodid of potassium may be increased or diminished, according to the requirements of the particular case. The disease, with its painful accompaniments, has a depressing effect on the vital processes, and rapidly impairs nutrition. The iodid of potassium removes the cause of the pains by its eliminating properties, and the cordial of codliver oil compound improves nutrition, tones up the nervous system, and, by regulating the kidneys, allays the acridity of the urine. With such a constitutional corrective, and suitable diet, and mild antiseptic injections or irrigations, this disease is readily subdued.

Besides the general restorative action of the above remedy, it directly increases the excretion of urine and uric acid, and renders the urine less irritating to the inflamed mucous membrane of the urethra. This preparation is therefore intended to meet both the rheumatic and gonorrheal conditions of this

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troublesome disease. It is palatable and efficient in the doses named, a tablespoonful after each meal and at bedtime being the usual quantity required for successful results.

SUMMER COMPLAINT.

BY FRANK J. ROHMER, M.D.
KILN, MISS.

In the discharge of our professional obligations, I know of no ill that is approached with more of that sense of responsibility and apprehension than those disorders incidental to the first and second summers of childhood, which are especially marked in bottle-fed children; improperly fed would no doubt be the right term. This may mean over-feeding, impure feeding, or insufficient feeding.

The treatment of gastro-intestinal diseases in the young should, in my opinion, be classed into three divisions — viz., antiseptic, tonic and evacuant. First of all, the child must be put under the very best of hygienic treatment. Filtered or boiled water, pure air and out-door exercise in the sunshine are important factors in the welfare of the little one. Water should be used freely, and should never be withheld from a dry, parched and burning throat. Be a radical hydropath. Inject slowly into the bowels of the young patient a half to a quart of tepid water. I know of nothing better than rice water, with the addition of some mild antiseptic; listerin has proved very beneficial, in two to five tablespoonfuls to the quart of clear rice water. A tepid bath several times a day would be indicated. Feeding would play an important rôle; it would be best at times to withhold food, as the alimentary tract being in an altered condition, assimilation is delayed or else prevented.

Cholera infantum, as we understand it, is characterized by sudden muscular debility, spasmodic griping, pains in the bowels, watery evacuations, obstinate vomiting, dampness and coldness of the entire body, pale and livid lips and tongue, associated with cold breath and feeble pulse; collapse is more or less complete.

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The first thing to do in the way of treatment is to administer something to arrest the vomiting and purging, for which, after administering the rice water and listerin for irrigation, I would give the following: ℞ Bismuth subnit., ʒiss; listerin, ʒss; glycerin, ʒiss; mistura cretæ, q.s., ʒiiss. M. Sig.: A tablespoonful every two hours. This, with frequent irrigations of listerin and external applications of tepid-water, will be of some benefit, if the patient is seen in time.

If the child is suffering and irritable, not finding relief from applications, I would give some form of opium, such as the camphorated tincture. Small doses of hyoscyamus and chloroform, with glycerin, seem to quiet and arrest the progress of the disease.

MALARIAL HEMATURIA, OR HEMOGLOBINURIA.

BY ELISHA W. BREAZEALE,
BERMUDA, LA.
Student of Medicine, Memphis Hospital Medical College.

WITHOUT attempting to enter into the history of the plasmodium malariæ, nor to discuss for one moment its etiology, nor trace the microörganism through its various stages—sporulation, segmentation, method of attack upon the red blood corpuscles, rupture and destruction of these corpuscles—but taking it for granted my readers are thoroughly familiar with the work of such men as A. Laveran, Ed. Klebs, A. Celli, Golgi Canalis, Patrick Manson and a host of others, I shall attempt to reason with them as regards the manifestations of malarial toxemia as exhibited in hemoglobinuria.

The researches of the present day have shown, beyond a doubt, that there is a distinct, a material difference between bacilli and the toxic material as generated by these bacilli, whether it be that of diphtheria, scarlatina, tuberculosis, variola, tetanus, glanders, cholera, typhoid fever, anthrax, pneumonia or others. It is not the microörganism *per se* that stupefies the individual, that paralyzes the nervous mechanism or produces its various other manifestations, but the toxic material, toxomucin or substance thrown off by the germ. We realize this in all diseases of bacterial origin.

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The immortal Jenner was the first and foremost to throw the banner of this reasoning to the breeze, little knowing at the time that he was opening a door of thought and research along the lines of which toxins have been appreciated and antitoxin measures devised. Bacilli in themselves produce no trouble, but it is against the toxins they generate that our attacks are made. We administer diphtheritic antitoxin, not to destroy the diphtheritic bacillus, but to neutralize the toxin as evolved from this bacilli, and dame nature does the rest.

In the absence of the discovery of a neutralizing principle for the toxin as generated by the malarial parasite, we should bear in mind that the human body is capable of evolving a remedy for every disease that human flesh is heir to, and endeavors to use these remedies whenever occasion requires it.

There is a law laid down by the great Architect of the Universe that all animate and inanimate things have a constant cycle. This holds good with the material as well as the immaterial surroundings of our beings; whether applied to the planetary bodies in their constant and uniform revolutions or to the infusoria, the minutest form of conceivable animal life. This law may be warped, may be deviated by the hands and minds of men, but above and through it all the true principle shines forth. Production of animal forms is but the multiplication of cell life. Each microbe, each bacillus, each protozoon, each animal has its cycle to perform, as manifested by its birth, life, reproduction, death and decay. Each genus as a whole has its cycle to perform, i. e., existence, multiplication, degeneration, decay and disappearance.

Thus the plasmodium malariæ, as generated from nature's laboratory in that soil suitable for its development—heat, moisture and decaying vegetable matter—finds lodgment in the circulating fluid of the human being, either through the medium of respiration or by inoculation by the mosquito of the genus anopheles; these germs multiply and decay. At each cycle there is a toxin evolved; this toxic material nature is fully capable of taking care of—no disaster results to the individual. A shock to the nervous system, chill; a stimulation of the heat producing centers, fever; a subsidence, a

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feeling of well being. Here is where we behold nature's divine law, the birth, development, rise, zenith, decline and decay of every colony, every nation, every genus or organized structure, for without treatment these protozoa soon run their allotted time and disappear. The administration of quinin or other antiperiodic measures shortens the cycles of these malarial germs, and thus the remedy is surely indicated. But when from perverted function or the inability of the individual's organism to take care of the toxin generated, it accumulates in the circulating system, an acid reaction occurs; this acid by its chemical effects on the hemoglobin of the blood produces a degeneration of the red blood corpuscles, a surcharging of the blood plasma with hematin and the toxin of the protozoa. Nature comes to the rescue and endeavors to drain the system through the medium of the kidneys—hemoglobinuria.

That the malarial parasite is a progeny of the soil is proven by recorded observations and research. That the human being is not the only medium for their development is also an accepted fact. Tyson, in his deductions from Patrick Manson, says: "Both types of sporulating plasmodium possess the same function—the propagation of the parasite—one in the human body, the other outside of it."

I purposely leave out of consideration remittent, pernicious (algid and congestive), chronic and irregular forms of malarial fevers, feeling confident the most casual observer perceives the radical difference here and that of the disease under discussion, in which types the malarial microörganism is present performing that cycle which is inherent to all organized structure, held in check, preventing their destroying themselves by the protecting influence of nature's remedies, neutralizing the toxin.

The toxin not only produces the acidity of the blood, but is inimical to the life of the germs themselves, and they die rapidly. Bacteriological research has shown that within ten hours from the onslaught of a case of hemoglobinuria no malarial germs are found in the blood, and that fresh protozoons placed in the blood drawn from a patient thus attacked die within eight hours, showing conclusively they could not

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live in this toxic medium generated by themselves. This statement can readily be appreciated when we take into consideration the prognosis of all self-limited infectious diseases, to which class malarial hemoglobinuria undoubtedly belongs. All diseases of the above class culminate by the death or destruction of the microörganisms causing the respective disease. This destruction being produced by the toxin generated, or the gradual termination of the inherent life of the bacilli, by that underlying cause which permeates nature and is applied to all forms of life from the lowest and simplest of construction to the most complex of organized beings.

To give quinin then when there is no germ to kill is not only useless but suicidal. Quinin is a cardiac depressant, a diminisher of reflex action, arresting the movements of the white blood corpuscles and an irritant to the already congested kidneys. This irritation of the parenchymatous structure of the kidney produces further congestion, hyperemia, stagnation of the white blood corpuscles in the uriniferous tubules, a coagulation, a plugging, a cessation of urinary secretion, thus nature's channel of elimination is cut off. Meanwhile a similar condition prevails in the liver—a stupefied, poisoned and congested organ. A dusky, icterous color is imparted to the skin through the efforts of that organ to assist the kidneys and liver. A damming back into the circulation of not only the toxin of the protozoa but the urea of the disintegrated red blood corpuscles as well as other excrementitious principles. Paralysis of the cerebral centers ensues, destruction of the coördinating powers situated in the cerebellum, death to the reflex nervous actions, a stupefied heart, and a swift and speedy passage of the immortal soul to the realms of oblivion.

Then what must we do?

Delve down into the depths of research and produce for malarial toxemia what has been produced for other infectious diseases—an antitoxin. And until we do this we can only follow that treatment which reason and common sense dictate. Throw out a life-line, bridge the patient over, and instead of further poisoning his already poisoned body by the administration of quinin, obstructing nature, as it were, assist her in the elimination of the toxic materials, and give the dis-

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ordered nerves and heart an opportunity to recover themselves. To this end a large quantity of normal saline solution should be administered at once. Get it into the circulating medium as rapidly as possible, no matter which method you pursue (intravenous, subcutaneous, or by enema). This solution, bathing the corpuscles, as it were, prevents their running into rouleaux, facilitates osmosis, and assists in carrying away excrementitious matter; it increases the solubility of the proteids, promotes free secretion of urine, and directly stimulates the muscular walls of the heart. Hypodermoclysis in all prostrations of lowered blood vitality is proven of undoubted utility; then why not here?

Dilate the arterioles by the use of nitroglycerin, by mouth if patient can swallow, or, preferably, hypodermically, thus lowering arterial tension and redistributing to the kidneys their blood supply cut off by the degeneration of the renal ganglionic centers; the capillaries of the skin are dilated, more blood is sent to the surface, and a reduction of temperature follows. Administer calomel, followed by large doses of phosphate of sodium, every hour, to free evacuation of the bowels. Other local measures will suggest themselves. On the recovery of the patient, any manifestation of malaria from a reinfection can then be treated with quinin.

It is urged that the malarial parasite, being a protozoon, does not generate toxin. If this is so, what then precipitates an attack of hemoglobinuria through the destruction of the red blood corpuscles? If this destruction is produced by the sporulation, segmentation and rupture of the corpuscles by the microörganisms, then why should hemoglobinuria not be the result of each malarial paroxysm? We arrive at conclusions through the careful balancing of facts, and to deny the existence of a thing because we know not of it is preposterous.

The results of chemical combinations and changes in a test tube, as compared with the complex mechanism of nature's laboratory, are a different proposition. Empirical therapeutics are ever obvious, and until that point of development through evolution has been reached wherein the human form shall have attained that degree of perfection, that pinnacle of a perfect being, beyond the pale and grasp of the human mind, it will ever be the basis and support of our knowledge.

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I can only hope, if I cannot myself make the practical discovery of the malarial antitoxin, to at least see the time when some student of medicine shall expound it to the world.

PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

The Causes and Varieties of Chronic Interstitial Pancreatitis.

E. L. Opie (*Amer. Jour. Med. Sc.*, vol. 123, no. 5) says:

1. Chronic interstitial pancreatitis is slightly more frequent in males than in females. Two-thirds of the total number of cases occur between the ages of forty and sixty years.

2. The most frequent cause of chronic pancreatitis is obstruction of the duct of Wirsung, due to pancreatic calculi, to biliary calculi in the terminal part of the common bile duct, or to carcinoma invading the head or body of the gland. Duct obstruction may be followed by the invasion of bacteria, which take part in the production of the resulting lesion.

3. Ascending infection of the unobstructed duct of Wirsung may follow an acute lesion of the duodenum or of the bile passages, and may cause chronic inflammation. In cases which have given a history of long, persistent vomiting, chronic diffuse pancreatitis may be found at autopsy, and is probably the result of an ascending infection of the gland.

4. General or local tuberculosis is occasionally accompanied by chronic diffuse pancreatitis, affecting chiefly the interstitial tissue of the gland.

5. Chronic interstitial pancreatitis is not infrequently dependent upon the same etiological factors, notably alcohol, which produce cirrhosis of the liver, and in about one-fourth of the cases the two lesions are associated.

6. Following duct obstruction and ascending infection the lesion affects principally the interlobular tissue, only secondarily invading the lobular tissue and sparing the islands of Langerhans. Diabetes results only when the lesion is far advanced.

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7. Accompanying the so-called atrophic or Laennec's cirrhosis of the liver, the pancreas is at times the seat of a diffuse chronic inflammation, characterized by diffuse proliferation of the interacinar tissue, which invades the islands of Langerhans. A similar lesion accompanies hyaline degeneration of the islands of Langerhans and the condition known as hemochromatosis.

8. Interacinar pancreatitis is usually accompanied by diabetes mellitus. When diabetes is absent the lesion is of such slight intensity that the islands of Langerhans are little implicated.

Etiology of Paresis.

A. W. Hurd (*Med. News*, vol. 80, no. 20) says:

1. Syphilis is the most common factor in the production of paresis.

2. It may cause it directly—an exciting cause.

3. It may cause it indirectly by bringing about such a devitalization of the system generally as to render other influences operative—a predisposing cause.

4. It is not usually the sole cause, but there is associated with it the deleterious effect of mental stress and over-excitement, dissipation and alcoholism, and heredity.

5. In a certain relatively small number of cases mental stress, worry or overwork may be the sole ascertainable cause.

6. Traumatism may also be the cause in a still smaller proportion of cases, but in many of them it acts as a developing or ripening agent of an incipient paresis in a syphilitic subject.

The Intercommunicability of Human and Bovine Tuberculosis.

M. P. Ravenel (*Univ. of Pa. Med. Bul.*, vol. 15, no. 3) concludes an interesting paper thusly:

The evidence at hand forces us to conclude that human and bovine tuberculosis are but slightly different manifestations of one and the same disease, and that they are intercommunicable. Bovine tuberculosis is, therefore, a menace to human health. We are not in a position at present to define positively the extent of this danger, but that it really exists can-

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not be denied. In the past there has probably been a tendency to exaggeration, but however great this may have been it does not now justify any attempt at belittling the risk, and it is folly to blind ourselves to it.

The eradication of bovine tuberculosis is amply justifiable from a purely economical standpoint; viewed in its bearing on human health it becomes a public duty.

A New Study of Mitral Obstruction.

T. E. Satterthwaite (*N. Y. Med. Jour.*, vol. 75, no. 19) makes an interesting study of this subject, and reports a number of illustrative cases. He notes the following points:

1. Mitral obstruction is usually fatal before the age of forty is reached.

2. Females are a little more prone to it than males.

3. There is apt to be a marked contrast between a strong cardiac impulse and a feeble radial pulse.

4. The true presystolic murmur occurred in 15 per cent. of his cases. It comes and goes, but is usually inaudible in the last stage.

5. It is apt to have a loud rasping or sawing quality, but may be "gushing" or "whirring." It may also be faint or inaudible.

6. In about 40 per cent. there is some sort of diastolic murmur.

7. These murmurs are best heard over a rather limited area. somewhat oval in form, having for its center an area between the fourth left space, inside the nipple and the apex, and extending an inch or so to the right or the left. Occasionally this murmur is heard best as low as the fifth, sixth or even seventh left space; more rarely is it heard as high as the second left rib.

8. In 10 to 35 per cent. there was a thrill over this area.

9. The first sound at the apex is short and abrupt.

10. The second pulmonary sound at the base is usually intensified.

11. Occasionally a murmur with the second sound at the base is heard over the left auricular appendix.

12. At first there is hypertrophy of the left ventricle. Then

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atrophy of it, with hypertrophy of the left auricle; then follow dilatation and hypertrophy of the right heart.

13. Mitral insufficiency must to some extent accompany mitral obstruction.

14. In distinguishing the presystolic murmur of mitral obstruction from the Flint murmur of aortic insufficiency, we should rely on the "long heart" and the strong impulse, or the "Corrigan" of insufficiency, rather than auscultatory signs. In case there is both aortic insufficiency and mitral obstruction a differential diagnosis is impossible, with the means we have now at our command.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

Medical vs. Surgical Treatment of Cancer of the Stomach.

At the recent session of the German Congress for Surgery, Krönlein (*Med. Press and Cir.*, vol. 73, no. 3287) compared the medical treatment of cancer of the stomach with that by operation. Since the hopes raised twenty-two years ago by Billroth's first successful resection of cancer of the stomach, opinions were now again gradually becoming pessimistic. Even among surgeons there were doubts. He had thought therefore that an inquiry and a balancing of the results would be useful. Was operation curative or palliative? Could life be prolonged if not saved, or only made bearable for a time? He had collected notes of 264 cases, of which 195 had been operated on, whilst 69 were not operated on, 54 because operation was not admissible, 14 because they declined to submit to it. Exploratory laparotomy was performed in 71 cases with 7 deaths; gastro-enterostomy in 74 cases with 18 deaths, and gastrectomy in 60 cases with 14 deaths; total deaths 39, equal 19.4 per cent. As regarded permanent results, he had failed to obtain information only as to 4 per cent. of the cases. The average duration of time between the first appearance of symptoms and admission to the hospital was nine months. If

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patients were now submitted to operation the average duration of life was another 104 days; so that the average life from onset of symptoms was about one year. Patients went, therefore, first to the surgeon when three-fourths of their space of life had already run out. After gastro-enterostomy the average existence was 193 days, a prolongation of about three months. After gastrectomy they lived 420 days, a lengthening of life of about fourteen months. Of the gastro-enterostomy cases nine were still living, and of the gastrectomy thirteen. Of these one was healthy in the eighth year after operation, one in the fourth year, two in the third, three in the second, and six in the first. As recurrence took place late in carcinoma of the stomach, freedom from disease for three years could not be accepted as a permanent recovery. The figures showed at least that surgery offered some improvement on the hopeless outlook of internal treatment only. It not only prolonged life, but rendered it more bearable. This was especially the case in gastrectomy, which rendered even a radical cure possible. The speaker concluded with the wish that the operation, like that of extirpation of the vermiform appendix, might become more popular, not only with the surgeon, but also with the public. With early operations even better results might be obtained.

The Indication for the Surgical Treatment of Cholelithiasis.

A. A. Berg (*Med. Record*, vol. 61, no. 18), from observations personally made, states his conclusions as follows:

a. Indications for medical treatment: Cholecystitic pain or attacks of biliary colic, in either case unattended with fever.

b. Indications for surgical treatment: (1) Operations of choice—undertaken in the quiescent period; with the object of avoiding serious complications; a simple procedure and followed by 2 to 3 per cent. mortality. (*a*) Severe cholecystitic pain, or oft-repeated uncomplicated attacks of biliary colic; persisting in spite of medical treatment. In virtue of which symptoms the patient becomes invalided, and incapacitated for work. (*b*) After the first attack of acute cholecystitis, associated with fever. (2) Compulsory operations—undertaken at any time of the day or night; often amidst unfavor-

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able surroundings, and in patients who are septic, emaciated, and of low vitality. Difficult and laborious procedures, and attended with high mortality—50 to 75 per cent. (*a*) Foudroyant and intensely acute attacks of cholecystitis. (This may be the first indication of calculous disease, but usually follows previous milder attacks.) (*b*) Hydrops, empyema, gangrene, or perforation of the gall bladder, cholemia, abscess of the liver, and diffuse peritonitis.

Albuminous Expectoration Following Thoracocentesis.

D. Riesman (*Amer. Jour. Med. Sc.* vol. 123, no. 4) says:

1. Albuminous expectoration is a very rare complication of thoracocentesis. It is usually serious and sometimes fatal.

2. It consists in the expectoration of a viscid albuminous fluid closely resembling the fluid of serous effusion.

3. The condition is best explained on the basis of an intense congestion and edema of the lungs (congestion by recoil).

4. The principal cause seems to be either too rapid or too great a withdrawal of fluid.

5. Serious cardiac disease and morbid conditions of the opposite lung, hindering expansion, are predisposing causes.

6. Under all circumstances, but particularly when these complications exist, aspiration should be performed slowly. If the effusion is large the amount withdrawn at any one time should be moderate.

7. In some cases it may be wise to perform several tappings, drawing off a small quantity each time.

8. The treatment consists in counter-irritation, venesection, and artificial respiration, together with the use of morphine if the cough is severe.

Carcinoma of Penis.

At the Vienna "Gesellschaft fer Aerzte," Englisch (Cor. *Med. Press & Cir.*, vol. 73, no. 3288) read a lengthy communication on cancer of the penis. In the protocols of Vienna for the years 1892 to 1898 inclusive, there were 540,539 patients treated; 12,607 suffered from carcinoma, 81 of whom were suffering from carcinoma of the penis (1.78 per cent.). In the literature of the subject he found 528 cases, 12 of which were

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minutely described. The disease appears between fifty-one and sixty years of age. The origin usually assigned was slight inflammation of the foreskin, frenulum, or glans. Congenital phymosis was noted in only 29 per cent. of the cases, which fact was opposed to the view of this being one of the factors in the etiology of the disease.

The induration is usually preceded by edema, hypertrophy, extraordinary swelling, or, what is more frequently the case, tubercles in the form of warts or papillomata. The usual period of development is twelve to fifteen months.

The early symptoms are local, such as frequent micturition, burning in the urethra, particularly near the orifice, with sometimes a little discharge, then the glans become swollen when the external phenomena commence. These premonitory symptoms last about eighteen months. The glands of the inguinal canal, in front of the symphysis, pubis and bladder are usually enlarged. Metastases in the internal organs are very rare.

The rational treatment is amputation either with the knife or galvano-cautery, at the same time removing all enlarged gland within easy reach. Out of 465 cases operated on, 438 recovered completely (94.19 per cent.), while 5.8 per cent. went from bad to worse.

OPHTHALMOLOGY.

UNDER CHARGE OF A. G. SINCLAIR, M.D.

Professor of Ophthalmology, Otology and Laryngology, Memphis Hospital Medical College; Ophthalmic, Aural and Laryngeal Surgeon to St. Joseph's Hospital; Ophthalmic and Aural Surgeon to the City Hospital.

On Compression and Ligation of the Common Carotid Artery in the Treatment of Pulsating Ophthalmos.

Rascalon (*Recueil d'Ophthalmologie*) reviews the observations of Lefort regarding the treatment of pulsating exophthalmos. Of seven cases not treated, two became better, two grew worse and three died, one of the deaths occurring from hemorrhage after operation for a supposedly malignant tumor. Of thirty-seven cases treated by compression, there was a complete cure in three cases, an incomplete cure in six, and sudden death in one case, while there was not any result in the remainder.

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The author reports the following cases:

1. A 60-year-old married woman sustained a severe fall, leading to a fracture of the base of the skull, as demonstrated by hemorrhage from the left ear and nostril. There were violent cephalalgia and a roaring sound in the head. No abnormality was noted in the eyes for five days. On the sixth day edema of the right eyelids appeared, followed by an exophthalmos of a phlegmonous nature, associated with a considerable induration of the tissues and violent orbital pain. There was not any pulsation or bruit. On the twenty-third day pulsation, with thrill, but without any bruit, appeared, and could be noticed at the inner angle of the upper eyelid. Ocular compression was employed for a period of nine months, causing the disappearance of the exophthalmos, but not affecting the pulsation. There was a partial paralysis of the ocular muscles, with probable ocular atrophy, judging from the complete blindness.

The author believes the orbital swelling was due to an infection from the nasal fossa. The optic atrophy, he thinks, was the result of strangulation of the optic nerve by compression, and that the ophthalmoplegia depended upon either a contemporaneous effect of the accident or vascular distension. He hopes for a spontaneous cure, or perhaps as the result of the therapy that has been applied.

2. A 44-year-old female showed evidences of pulsating exophthalmos associated with Basedow's disease. Her family history was negative. Twenty-two years previously she developed the typical symptoms of Basedow's disease. In August, 1899, she fell, striking her head, left shoulder and side. She immediately developed a right exophthalmos, with loss of vision of the right eye. In eight days' time vision equaled one-sixth of normal, and there was a slight ptosis. There was a moderate amaurosis, the cornea was clear, the pupil was slightly dilated, and the iris was immobile. The ophthalmoscope showed that the media were transparent, the retinal arteries were slightly swollen, and the temporal side of the disc was somewhat pallid. The left eye was normal.

Ten days later the exophthalmos increased. There was ptosis. The cornea was hazy. There was a slight iritis. The

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media were hazy, and a view of the fundus was impossible. The patient complained of a sensation like a continued hammering in the right side of the head. Exploratory puncture and palpation gave negative results.

Two days after this there was a distant pulsation of the eyeball, with marked exophthalmos and bruit.

Ten days later it was noticed that the globe could be made to assume a normal position, and the pulsation and bruit stopped by compression on the common carotid artery.

In three months' time it was found that all of the symptoms were diminished. At this time it was noted that a compress bandage had been applied from the first.

Under constant compression until July of the following year, all pulsation had disappeared, a very slight souffle could be heard with the stethoscope, and the exophthalmos had nearly gone. Vision equaled the ability to see to count fingers at two and a half meters distance.

NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary; Laryngologist to Presbyterian Hospital.

Chorea Pharyngis, with Perceptible Objective Ear Noises.

V. Pick (*Monat. f. Ohrenheilkunde*, vol. 36, no. 4) reports a case of a cabinetmaker 40 years of age, a Russian Pole, ill nourished, with an appearance of highly developed neurasthenia, who presented himself complaining of long enduring and unbearable noises noticed particularly in the evening, heard in the ears. Besides he complained of dryness of the throat.

Examination and test of his organs of hearing revealed nothing other than a diffused cloudiness of both drum membranes. Only on auscultation with a stethoscope was there heard a tolerably loud, persistent sound resembling the beating of a loud sounding watch that repeated itself in irregular intervals up to one hundred times to the minute. This was caused by an apparent choreic and clonic twitching of the entire muscalature of the pharynx, by which the soft palate

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was raised and at the same time drawn backward, while the lateral pillars of the pharynx sprang forward, during which the remaining mucous membrane of the pharynx became wrinkled and the tubal eminences were shoved toward the median line about two centimeters. This last phenomenon could be seen through the atrophic nose, which afforded a good view, and was very clearly marked. Besides the atrophy of the nasal mucous membrane, which was covered with numerous flecks of pus, there was noticed by posterior rhinoscopy a tolerably large, much indented adenoid mass of the naso-pharynx, out of the folds of which thick, crust-forming pus flowed over the posterior wall of the throat, and irritated the mucous membrane of the latter to the extent of inflammation; a picture described by Thornwald, and known to rhinologists as Thornwald's disease. To these changes alone, in conjunction with a neuropathic predisposition of the patient, the choreic twitchings, which he may in the beginning have voluntarily set up, in order to rid himself of the constant irritation that was occasioned by the pus crusts in the naso-pharynx, but had followed thereafter independent of his will, could have been attributed. One must also see that although even scarcely with the removal of the original cause would the ill consequences immediately be relieved, energetic measures were indicated.

Therefore at first the adenoid growth was thoroughly removed, following which the nose was diligently irrigated with a solution of soda and salt in water for the removal of the purulent secretion, the inflamed mucous membrane treated by topical medication with astringent solutions, and for the purpose of bettering the general condition Fowler's solution was administered. The expected results did not fail to follow, as very soon the nasal mucous membrane became markedly more succulent, the production of the purulent secretion of the naso-pharynx ceased, and the mucous membrane of the last and of the throat returned to normal.

The choreic movements, and with them the ear murmur, remained as expected, although they were perhaps less frequent, and hope of early subsidence was entertained.

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Unusual Case of Glosso-Labio-Laryngeal Paralysis.

At a recent meeting of the Société Médicale des Hôpitaux, MM. Variot and Roy (Paris Cor. *Med. Press and Cir.*, vol. 73, no. 3280) exhibited a child 9½ years old, who presented all the symptoms of glosso-labio-laryngeal paralysis. They consider that the case was congenital. There is, however, no history given of this extremely interesting case, without which no idea of its being congenital or otherwise can be formed. Congenital cases of the disease are almost unknown. Hitzig, however, reports such a case (*Berl. Klin. W.*), the patient being at the time of writing 6 years old. Ehr considers that Hitzig's case belongs to another class of disease. The disease is seldom met with before 40 years of age. The cases of Kayser, of a boy, æt. 12; of Frerich's in a boy, æt. 10, and even Wachsmuth's case of a girl, æt. 17, are looked on as of doubtful diagnosis. It is interesting to note that the first description of the disease and the first attempt to explain its pathology was given in a letter to Sir Charles Bell by Dr. R. W. Robinson.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Treatment of Inoperable Septic Peritonitis.

H. G. Wetherall (*Jour. A. M. A.*, vol. 38, no. 21) says:

1. The treatment of septic peritonitis by surgical measures on the one hand or by rational medical measures on the other must be determined in each case first through a carefully made differential diagnosis as to the source of the infection; second, through an estimate of the apparent virulence and diffusion of the infection; and third, through consideration of the elapsed time since the infecting material was injected into the cavity.

2. Infections from the intestines, vermiform appendix and oviduct are apt to be dangerous in the order given, because

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of the relatively greater mobility of the first and then the second and third, and of the greater relative distribution of their contents, which favors and promotes diffusion of infection and prevents plastic closure of the leaking viscus.

3. Physiologic rest of the intestines favors limitation of the area of peritoneal involvement and the saving of life, and is best attained by the maintenance of an empty bowel and the avoidance of cathartics; this means lavage, fasting and no salts. If enemata are used for clearing the rectum, as may be required, they must be small in amount and injected with the utmost care from a low bag.

4. Cases of diffuse peritonitis with profound local and general symptoms must be regarded as being inoperable, inasmuch as the interests of the patient and the requirements of good surgery both demand that untimely surgical measures be not employed where better results may be had with simpler and safer ones.

5. Early operation, before diffusion has taken place, is safe, and in most instances to be advised if the environment be favorable and an experienced surgeon at hand. Interval operations are certainly advisable after recovery from a diffuse peritonitis from any source.

A Report in Gynecological Pathology.

W. H. Weis (*Amer. Jour. Obs., etc.*, vol. 45, no. 293) in a synoptical review of a study of tumors from 523 operative gynecological cases, states of the appendix as follows:

This was removed in 76 cases as a supplementary procedure to some other abdominal operation. The following conditions were found:

Normal appendices, 49. Most of these were removed on account of light adhesions, sharp flexures, etc.; microscopically, however, the appearances were normal.

Total occlusion, 13. As this frequently occurs after middle life, it might almost be included with the normal cases.

Foreign bodies and concretions were found in 5; one of these containing two grape seeds, in the other 4 were hard concretions of débris, epithelium, etc.

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Cystic appendices, 2. In one of these, above a constriction, there was a dilated area, one centimeter in diameter, lined by a single layer of columnar epithelium. The tubular glands had disappeared from being stretched out flat; the stroma of the mucosa and the lymph nodules were almost entirely gone. The other cystic case was due to myxomatous degeneration of the mucosa and the submucosa.

Myxomatous degeneration of the mucosa occurred in one other case.

Periappendicitis was found five times, once in connection with a marked interstitial inflammation, and in another case with an unruptured abscess of the appendix occurring with bilateral pyosalpinx.

The Treatment of Suppuration in the Uterine Appendages.

C. P. Noble (*Amer. Surg. & Gynec.*, vol. 15, no. 9) says:

1. The methods of dealing with suppuration of the uterine appendages have been greatly improved within the past fourteen years. The mortality has been reduced from more than 16 per cent. in the first half of this period to less than 5 per cent. in the second half.

2. This reduction in the mortality has been obtained by: (a) Abandoning abdominal section in the treatment of pyosalpinx and abscess of the ovary when complicated by intraperitoneal abscess, and by substituting direct incision and drainage in this group of cases, and also for recent cases of pelvic suppuration of puerperal origin. (b) By substituting hysterectomy for oophoro-salpingectomy for the removal of bilateral suppuration in the uterine appendages.

3. These changes in methods of operation have permitted the development of a much more perfect technic, which yields greatly improved results, remote as well as immediate. Ventral hernias, pedicle abscesses and troublesome intraperitoneal adhesions have become very rare instead of very frequent sequels of abdominal operations.

4. Free incision and drainage in cases of suppuration of the uterine appendages complicated by intraperitoneal abscess has proven to be a most valuable life-saving measure, yielding a

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mortality of less than 2 per cent., as contrasted with 27 per cent. from abdominal section. The remote results have been scarcely less gratifying, thirty-two of the fifty-four having been permanently cured.

5. Incision and drainage has proven to be a most conservative operation, not only in the saving of life, but in the conservation of the sexual organs. Of the fourteen patients in whom subsequently a radical abdominal operation was performed, in only three was it necessary to remove more than one uterine appendage. The substitution of incision for the radical operation has saved many young women from the annoyance of a premature menopause, and has enabled a number of them to bear children. Six pregnancies are known to have occurred, resulting in five children—one pair of twins—one miscarriage, and one pregnancy now developing.

6. Direct incision and drainage finds its best indication in: (a) Puerperal phlegmon; (b) puerperal ovarian abscess, intraperitoneal abscess and pyosalpinx; (c) in complicated cases of pelvic suppuration of whatever origin, in which the pus is not contained within the ovary and tube.

7. The value of direct incision is most manifest in the worst class of cases, in which the patient is acutely ill from suppuration and peritonitis, and in which abdominal section gives its worst results.

A Novel Point in Heredity.

A curious point has been recently raised before the civil tribunal of the Seine. In January, 1901, a lady died after having given birth to an infant at the sixth month of gestation, which was reared for a month in a *couveuse*, when it, too, died. The question to be decided was whether an infant born at a period reputed to be non-viable could inherit, irrespective of a soon-to-be-extinguished vitality. At first sight the question seems simple enough, but evidently the tribunal thought otherwise, since it nominated a commission of experts to decide whether or not the infant presented the "requisite viability" to qualify as an heir.—*Medical Press.*

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TREATMENT OF CHRONIC SUPPURATIVE OTITIS MEDIA.

ONE of the gravest problems confronting the otologist is the proper treatment of his cases of chronic suppurative otitis media. That the operative treatment of this condition is not everything desired in the way of successful results is apparent to any one who has given statistics even the most casual study. These cases are so diverse in their manifestations, and are so uncertain in their course, that the surgeon might well classify them as being in the same category from a therapeutic standpoint as appendicitis.

It is pretty generally accepted that the tendency of practically every case of otitis media purulenta, if it does not yield to local treatment in a few weeks, is to chronicity, and chronic suppurating ears are as little amenable to anything other than operative treatment as any condition that is known to the clinician. And yet we are confronted with the fact that operation does not by any means invariably cure in these cases. Every physician of extensive experience in the operative treatment of chronic purulent otitis media is forced to admit that he has had quite a large proportion comparatively of unsuccessful cases. Dench reports that out of seventeen cases operated on by the Stacke-Schwartze method, which is the accepted one, eleven were cured, four were improved, and in one case the result is unknown. We can perhaps consider

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that six of these cases were not cured by the operation, a percentage of nearly 33⅓ per cent. An operation that leaves such a large proportion of cases uncured, is certainly not ideal. On the other hand we have to face the probability of a lifelong chronic condition, which continually requires attention, is disgusting to the patient and frequently to his friends, and there is constantly hanging over the victim's head the possibility of developing a cerebral abscess from the purulent condition of the middle ear. Of this latter, the danger to life seems to be very small — there being a mortality of about 3 per cent. ascribable to this source.

In operating for the relief of this condition, we are met with the serious proposition in many cases of being compelled to operate upon both ears. Then again, since the Stacke-Schwartze method involves the destruction of the posterior wall of the external auditory meatus, as well as the mastoid cells involved, it necessarily causes considerable disfigurement. But this consideration is of but minor moment in the long run, and if we could in a larger proportion of cases promise permanent relief from the suppuration, with at the same time no further impairment of the hearing, the operation assuredly would be the thing to urge in every case. Yet take an instance such as the writer has in mind, of a young man with a double chronic purulent otitis existing since childhood, in whom the discharge does not interfere with his pleasure and business, who presents no other evidence of physical impairment, the question presents itself to the surgeon, Shall I advise an operation, which has a strong element of doubtful value, to this patient? The writer answers most emphatically, No. On the other hand we will take an instance in babyhood. A child recovers from an attack of scarlet fever, but is afflicted with a persistent chronic otitis media in both ears. Treatment commonly adopted in these cases benefits this child to a certain extent, but the discharge continues and promises to hold on indefinitely. Should this case be operated upon? This to us places us in a more embarrassing position than the one just outlined, but we certainly should feel more inclined to urge operation in a case of this character than we would when the condition presents itself in an adult.

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Operation for the cure of chronic purulent otitis media involves a radicalism that is astounding at times in its scope, for in order to remove every portion of diseased bone, without which the operation would be practically worthless, it is frequently necessary to destroy an area of bone so extensive as to appal even the operator of wide experience. The mastoid region demands thorough curettement, the partition between the cells and the middle ear must be broken down, and the middle ear cleared of its contents. The extent of this operation is no doubt one of the chief reasons, if not the chief, for the conservatism of many otologists.

The question of operating or not is still an open one, and therefore the responsibility of the aurist becomes all the greater, for he has no positive rules by which he can be guided, but must make every case a separate study and be guided by his own opinion as to the treatment to be adopted.

THE DECREASING PREVALENCE OF DIPHTHERIA.

It is apparent to general practitioners that there has been a noticeable decrease in the number of cases of diphtheria found in almost every locality of this country. This decrease is not merely apparent, but unquestionably is real. We state this so positively because it has been contended that the early and general use of antitoxin has been instrumental in bringing about this state of affairs. We would not question the claim that antitoxin has diminished the mortality in this disease, but that it has occasioned a decrease in its prevalence we would vigorously dispute.

In the early days of antitoxin the opponents of this therapeutic agent claimed that to the fact that diphtheria was becoming less virulent was due the improvement in mortality statistics that had been reported. This would now seem to us to be a stronger argument than it did at that time. In the experience of the writer, there has been during the past five or six years a very noticeable decrease in the number of cases of diphtheria that have come within the scope of his observation. The health reports of the city of Memphis will also bear us out in this statement. We seriously question the

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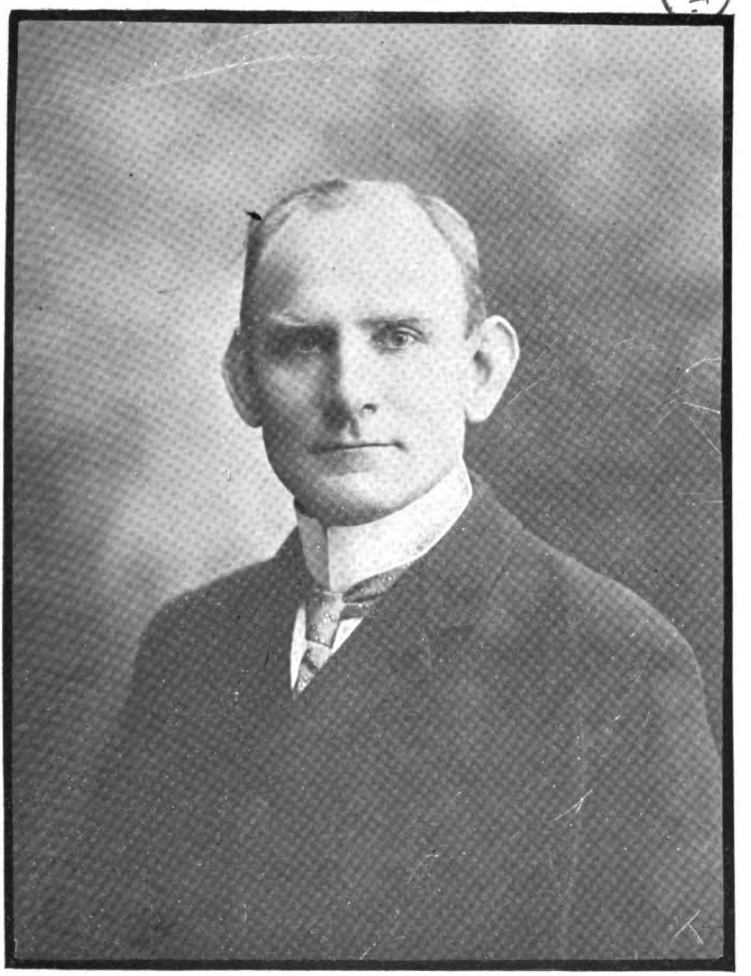
claim that antitoxin had anything at all to do with this state of affairs, but believe that the principles of isolation and attention to general hygiene, which are now more commonly invoked are really the chief factors in bringing about this very desirable lessening in prevalence of a very distressing and frequently fatal disease.



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FRANK A. JONES, M.D.

It is not often that the MONTHLY trespasses upon its editorial space to the extent of a biographical notice of any length, but the subject of this sketch has received such considerable honor at the hands of the greatest medical organization in the United States—the American Medical Association—that we feel that local pride should condone this usurpation.

Dr. Frank A. Jones was born in Brownsville, Hinds County, Mississippi, July 16, 1867. Receiving his literary education at the Southern University, located at Greensboro, Alabama, he graduated in medicine from the Louisville Medical College in 1890. After practicing at Indianola, Mississippi, for four years, he moved to Memphis in the fall of 1895. Dr. Jones now occupies the position of Chief of Clinic at the East End Dispensary and Lecturer on Clinical Medicine and Demonstrator of Physical Diagnosis in the Memphis Hospital Medical College. At the St. Paul meeting of the American Medical Association last year, Dr. Jones was elected Chairman of the Section on Practice of Medicine, he being the youngest man ever honored with this office, which is regarded as being next in importance to that of President of the Association.

EDITOR'S NOTES.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES will meet in Washington, June 5–6–7.

THE AMERICAN PROCTOLOGIC SOCIETY will hold its fourth annual meeting at Saratoga Springs, June 10–11.

Dr. JOSEPH H. VENN, of Memphis, was married to Mrs. Laura Robertson Hogin, Wednesday evening, May 21, at Memphis.

THE KANSAS CITY ACADEMY OF MEDICINE has recently adopted resolutions urging the abolition of the newspaper publication of personal medical advertisements.

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Dr. E. A. Neely announces that he has associated with himself in practice Dr. Thomas Miller, late of Joplin, Missouri, and recently surgeon U. S. Army, in the Philippines.

The Fourteeth Annual Meeting of the Tri-State Medical Society of Ala., Ga. & Tenn., will be held at Birmingham, Ala., Oct. 8–9–10, 1902. This meeting promises to be of unusual interest.

The Illinois Central Railroad, in connection with the B. & O. S. W., C. C. C. & St. L., L. S. & M. S., N. Y. C. & H. R. Railroads, has arranged through sleeping car connections to accommodate the doctors, their families and friends, for the trip to the A. M. A. meeting at Saratoga Springs, leaving Memphis June 7. For reservations, rates, etc., Mr. John A. Scott, D. P. A., Memphis, Tenn., should be communicated with.

The Colorado State Medical Society offers a prize of twenty-five dollars for the best essay, for circulation among the laity, upon the dangers of self-drugging with proprietary medicines.

The competition is open to all. Essays must be typewritten in the English language, must contain not more than 3000 words, and must be submitted before June 15, 1902. Each essay must be designated by a motto; and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the Society for publication. Others will be returned to their authors. Essays should be sent to the Literature Committee, Dr. C. A. Graham, Sec'y, Stedman Block, Denver, Colorado.

SOCIETY PROCEEDINGS.

MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY.

Regular meeting, April 15, 1902.

President Dr. Alfred Moore in the chair.

Present were Drs. Alfred Moore, Barton, McKinney, Farris, Smythe, Porter, Burns, Rudisill, Rice, Wadlington, Buford, Ellett, Castles, Van Metei, Andrews, Peete, E. E. Haynes,

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Reilly, W. B. Sanford, Clark, Krauss. Visitors, Drs. J. L. McLean and E. C. Ham.

Sanitation, with Special Reference to the Destruction of Garbage, was the title of an address by Dr. Heber Jones, president of the Memphis Board of Health.

In the absence of Dr. Thornton, who was to open discussion, Dr. Reilly opened the discussion of Dr. Jones' address. He agreed with Dr. Jones, and was in favor of cremation of garbage, but said there was a possibility of damage suits from injury to adjoining property.

Dr. Andrews said that he was familiar with the present system of destruction of garbage by the Board of Health, having been connected with the board nearly two years. Memphis was one of the pioneer cities to adopt the crematory system. Thought cremation the only way to destroy garbage. While connected with the board he had never heard any complaint from the property owners. The Memphis and Shelby County Medical Society should be proud to have the president of the Memphis Board of Health one of its members.

Dr. Buford said that Dr. Jones, through his sanitation, had taken the Memphis doctors' craft from them. Thought the garbage should be hauled to the country to fertilize the soil.

Dr. Rice thought the fertilizer would be returned to soil in the smoke. The cost of destruction should not be considered where the health of the city was improved.

Dr. Rudisill said the ash made good streets.

Dr. Wadlington wanted to know which was the cheaper fuel for crematory—oil or coke.

Dr. Smythe heartily approved the crematory system.

Dr. W. B. Sanford was also in favor of cremation.

Dr. Jones, in conclusion, said that there was some objection raised at first in regard to the injury of property, but nothing resulted from this opposition. The ash was worth twenty cents per cubic yard for making streets, which was $4000 per year. Burned all of the dead animals they could get. Even large animals burned easily; they made good fuel. Could not get large animals now, as another party had a contract with the city for them. They burned over 2000 dogs per year, and even more cats. Memphis had never used oil for fuel, but it

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had been tried in oil belt in Ohio, and was more expensive than coke.

Dr. Rice reported *A Case of Hysterectomy for Fibroid.*

Dr. Rudisill reported *An Interesting Case of Opium Poisoning.*

Dr. Burns reported *A Case of Paralysis of the Heart from Toxemia*, which was promptly relieved by injecting strong water of ammonia into heart muscle.

Dr. Smythe reported *Two Cases of Narcosis from Chloroform and Ether*, which were promptly relieved by injections of ammonia into heart muscle. Also reported a case of shock and hemorrhage from extraction of tooth, which was promptly relieved by intravenous injection of saline solution.

Dr. Ellett made report for Program Committee.

Dr. Reilly offered the following resolutions, which were passed unanimously:

Resolved, That it is the sense of this society that the free use of pure water is essential to the proper sanitation of any city, and especially so of Memphis, and that we condemn the meter system, as it tends to check its full and necessary use.

Resolved further, That the City Council be respectfully solicited to oppose their introduction by the water company on any rate.

Dr. Ellett moved that copies of the resolutions be sent to the press, also to the mayor and chairman of the water committee. Carried.

Dr. Andrews, for the Committee on Credentials, reported the name of M. H. Bell, who was elected unanimously.

Dr. Barton read the names of the following applicants for membership: Drs. E. C. Ham, J. L. McLean, city; E. K. Leake, B. L. Branch, Collierville; W. L. Henderson, sr., and W. L. Henderson, jr., Woodstock; W. M. Bigham, Kerrville.

Regular meeting, May 6, 1902.

President Dr. Alfred Moore in the chair.

Present, Drs. Alfred Moore, Barton, Morrow, Bell, Erskine, Porter, Burns, Haywood, Castles, Buford, Raymond, Rudisill, Heber Jones, Andrews, Wadlington, Michie, Farris, Krauss, Smythe, Turner, Block, McCown, Ellett. Visitors, Drs. Griffin and Davis.

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Program: *Comparative Anesthetic Value of Chloroform and Ether*—Dr. F. D. Smythe.

To open discussion, Dr. T. J. Crofford.

Items of Medical Interest Observed on a Recent Trip to South Africa—Dr. J. L. Andrews.

In the absence of Dr. Crofford, Dr. Turner opened the discussion of Dr. Smythe's paper. Dr. Turner had seen four cases of death from chloroform; one was an obstetrical case, and the death was due to paralysis of respiration. Thought death could occur from the use of thirty minims if administered at one time without air. Air should be inhaled with each and every breath. Had seen one death from one inhalation of chloroform; this was a young man in good health, whose heart was perfect. Thought death from chloroform was not always due to paralysis of heart.

Dr. Rudisill preferred ether to chloroform. Had seen but one death from an anesthetic, and that was chloroform. The patient died forty-eight hours after the administration of the anesthetic, and operator said death was due to chloroform.

Dr. Krauss said the freezing point of the urine was a guide as to ether, and heart to chloroform.

Dr. Morrow said that chloroform was contraindicated where lung capacity was diminished from any cause.

Dr. Smythe, in conclusion, said that he desired to emphasize the point that both ether and chloroform had their places as anesthetics. Thought many deaths due to anesthetics were not reported as such. Thought many deaths due to the careless administration of the anesthetic.

Dr. Turner reported an interesting case of *Unilateral Hypertrophy of the Trophic Center.*

Dr. Heber Jones reported an interesting case of *Puerperal Mania.* Discussed by Drs. Erskine, Raymond, McCown, Andrews and Moore.

Dr. Andrews, for the Committee on Credentials, reported the following names of applicants, who were elected unanimously: Drs. B. L. Branch, E. K. Leake, W. M. Bigham, E. C. Ham, W. L. Henderson, sr., and W. L. Henderson, jr.

Dr. Barton read the name of Dr. J. F. Griffin, an applicant for membership.

Adjourned.

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BOOK REVIEWS.

ABBOTT'S BACTERIOLOGY. A Practical Manual of Bacteriology for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene, University of Pennsylvania. New (sixth) edition, revised and enlarged. In one 12mo. volume of 636 pages, with 111 illustrations, of which 26 are colored. Price, cloth, $2.75 net. Just ready. Lea Brothers & Co., publishers, Philadelphia and New York.

Unquestionably Abbott's Bacteriology is one of the best books for the student of medicine and practical laboratory worker that is known to the medical profession. It is now in its sixth edition, and has undergone the usual revision and enlargement. The volume includes additions in the way of recent findings regarding the causation of cerebro-spinal meningitis and dysentery; the lately-revived investigations in tuberculosis and the discovery of the new group of microörganisms which appear to be so closely allied to the bacillus tuberculosis; the very considerable additions that have been made to our knowledge of the mechanism of infection and immunity, etc.

OPHTHALMIC MYOLOGY. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology in the Medical Department of Vanderbilt University; Author of New Truths in Ophthalmology; Ex-President of the Nashville Academy of Medicine; Ex-President of the Tennessee State Medical Society. 61 illustrative cuts and 6 plates. Published by the author. 1902. Price, $4.

Dr. Savage has long been known as a tireless and original worker on the subject of the ocular muscles, and the appearance of a systematic treatise from his pen is a cause for congratulation to all workers in this field. While much of the matter contained in this book has appeared in various ophthalmic journals or in the author's previous books, there is much that is new. A critical review is hardly appropriate in a general journal, but the fact that Dr. Savage is an honored member of the profession of our own State impels us to more than a passing and perfunctory notice of this book. Essentially a book for the specialist, it should be in the hands of every ophthalmologist. As a complete, systematic treatise of the subject, it is superior to any previously written, and bears the marks of careful preparation, painstaking composition and deep thought. The subject of the physiology of the ocular muscles is elaborately and clearly elucidated, and incidentally many of the older theories emanating from the highest authorities are overthrown on what must be acknowledged to be sufficient grounds. Dr. Savage's work on the oblique muscles is particularly valuable, and is mostly original. While all may not share his optimism as to the results of the treatment of muscular asthenopia, especially by operation, a careful reading of this book will enable the reader to fully comprehend the conditions, their diagnosis, and the indications for the steps of the treatment. The reviewer doubts the ability of the occasional operator to obtain the desired results, which may seem easy of attainment to one possessed of the author's skill. We are impressed with the simplicity of the surgical measures advocated. The book is entirely commendable as a most thorough exposition of the principles underlying normal and abnormal ocular myology. We can heartily advise all interested in the subject to familiarize themselves with its contents, knowing that they will be amply repaid for the study. E. C. E.

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INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the collaboration of John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London. With Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Vol. I; 12 series. 84 illustrations, 3 colored plates. Price, cloth, $2. J. B. Lippincott Company, Philadelphia and London.

The most valuable feature of the International Clinics is, as we have remarked in previous reviews of this work, its practical teaching quality. In the present volume will be found articles from some of the ablest clinicians in the world, and these articles are prepared especially for the Clinics, and are not reprints or extracts from any journal or journals. Further to be commented upon in this volume are the thorough reviews of the progress of medicine for the year 1901, which completely cover the ground of medical advance for that period, and the many excellent illustrations that abound throughout the work.

ATLAS AND EPITOME OF OPERATIVE SURGERY. By Dr. Otto Zuckerkandl, Privatdocent in the University of Vienna. From the Second Revised and Enlarged German Edition. Edited, with additions, by J. Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Second Edition, thoroughly revised and greatly enlarged, with 40 colored plates, 278 text illustrations and 410 pages of text. Price, cloth, $3.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The atlas feature is peculiarly applicable to a work on operative surgery, for it thus affords definiteness of detail that can be brought out only in a work thus illustrated. This is the second edition of Zuckerkandl's popular work, and it has been thoroughly revised and greatly enlarged. The favorable reception that this book obtained in its first edition should continue to be borne out in this second.

ATLAS AND EPITOME OF OTOLOGY. By Gustav Bruhl, M.D., of Berlin, with the Collaboration of Professor Dr. A. Politzer, of Vienna. Edited, with additions, by S. MacCuen Smith, M.D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. With 244 colored figures on 39 lithographic plates, 99 text illustrations and 292 pages of text. Price, cloth, $3 net. Philadelphia and London: W. B. Saunders & Co. 1902.

In this series of atlases none should prove more valuable than this. It pictures in colors the pathological changes of the ear far better than any similar book of the kind that we have ever seen. This, in fact, constitutes all that is necessary to say by way of review of this book; for, while there is no little descriptive text, it is the illustrations which render the volume of greatest value. In the preparation of the work the author has enjoyed the collaboration of Professor Dr. A. Politzer, of Vienna, from whose rich collection of specimens a number of valuable examples have been obtained.

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MEMPHIS
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ADDRESS.

IS THE MEDICAL PROFESSION ENTITLED TO REPRESENTATION IN THE "HALL OF FAME"?*

BY JERE LAWRENCE CROOK, A.M., M.D.
JACKSON, TENN.

Members of the Association and Visiting Friends:

THE honor of addressing this body as its presiding officer is one which I esteem most highly and acknowledge with rare pleasure. Residing in the city which is the home of the West Tennessee Medical and Surgical Association, I take great pride in adding to the words of welcome of Mr. T. H. Arnold on behalf of the other citizens, the cordial greeting of the physicians of Jackson to the Association collectively and individually, at its annual homecoming.

The interrogatory which I have assigned myself the task of answering in your presence this evening is one of supreme interest not alone to every disciple of Æsculapius in America, but one which is worldwide in its scope. If answered affirmatively by the "Electors of the Hall of Fame," they will, as I shall attempt to show, but have given honor to whom honor is due.

The "Hall of Fame for Great Americans" owes its existence to the generous impulses and lofty conceptions of a noble woman—Miss Helen Gould, of New York. The beautiful

* President's Address, delivered before the West Tennessee Medical and Surgical Association at its Eleventh Annual Session, Jackson, May 22, 23, 1902.

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building stands near the center of New York's splendid park adjoining the Metropolitan Museum of Art, and is an enduring monument to its founder. In this superb temple one hundred and fifty panels are provided, each to be dedicated to an American citizen whose lifework entitles him to be immortalized in a "Hall of Fame," or elsewhere, as a leader or benefactor of mankind. No one is eligible who has not been dead at least ten years. Thus far twenty-nine names have been enrolled by the jury of one hundred electors, each name having received fifty-one or more votes, as required. Patriots, statesmen, authors, essayists, inventors, soldiers, sailors, preachers, poets and lawyers are represented; but not one representative of that profession of whose members the *Globe Democrat*, in a recent editorial, spoke as follows:

"Doctors do not call themselves philanthropists, yet they practically accomplish more in that line than men of any other vocation. What a great though quiet force they have been in the building of the West! If the full story of their labors and sacrifices in Missouri could be told, the record would touch every heart and impress every mind with its value and magnitude. Doctors are men of wholesome and highminded sentiment, suited to the needs and advancement of every day life. They know few holidays, and often devote those they have to greeting a noble old teacher as they did last night. (This refers to the banquet to Dr. E. H. Gregory in St. Louis.) They work in the shadows of human existence, but always toward light. Americans could get along without politicians, being born that way, but the learning and goodness of the medical profession does not come by nature."

Dr. Burnside Foster has published a poem in the *St. Paul Medical Journal* on "The Doctor at the Parting of the Centuries", from which I quote the following lines so appropriate to my subject:

> To cure their ills, to guard the people's health
> Bring little fame and scarcely more of wealth.
> 'Tis rare indeed upon the roll of fame
> To find inscribed the busy doctor's name;
> Nor is it wrought in gold or carved in stone,
> Few poets have writ the things by doctors done.
> To worship heroes and to sing their praise,

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To tell of love in many different ways,
Of human happiness and human grief,
All this has been of poetry the chief;
And yet, methinks, the greatest theme of all
Has been neglected, and scarce sung at all.
Who of all men sees most of all these things?
Who of all men to those who suffer, brings
Most comfort, most relief from pain?
Whose is the helping hand ne'er sought in vain?
Ask of yon happy little lad,
Whose legs were crooked and whose back was bad,
Who made him straight and put his back at rest.
Ask of some mother at whose happy breast
A new-born babe is held with joy and pride,
Who sat beside her and to whom she cried
For help and comfort in her hour of pain;
And ask her if she ever cried in vain.
Ask of the soldier back from some campaign,
To whom he owes it that he's home again.
Ask him, who ran to help him when he fell,
And snatched him from the very jaws of hell,
Where bullets rained and shells were bursting round
And dead and dying cumbered all the ground.
When pestilence and plague with horrid breath
Are stalking through the land and dealing death,
Who faces them without a thought of fear?
Whose is the voice the sufferer loves to hear?
All these the doctor does, has done, will ever do;
These are his duties and his pleasures too;
Not that he loves to see and hear the pain;
But loves to make the sufferer smile again,
Loves to wipe the tears away, to hush the cry
Of anguish; or, if need be make it easier to die.
And yet they tell us that no doctor's name
Deserves a tablet in the "Hall of Fame!"

I wish to affirm in the first place this evening that the medical profession is entitled to representation in the Hall of Fame because of its ancient and beneficent history.

Renouard, in his history of medicine, arranges chronology of the development of medical knowledge in three grand divisions or ages. The first age commences as far back as historic tradition carries us and terminates toward the end of the second century of the Christian era, at the death of Galen.

It is clearly established that long before the birth of philosophy, medicine had been zealously and successfully cultivated

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by the Æsculapiadæ, an order of priest-physicians, that traced its origin to Æsculapius, the father of medicine, whom the people deified on account of their great love and reverence for him.

The second age begins at the death of Galen and ends with the end of the 14th century.

The third continues through the 15th, 16th, 17th and 18th centuries, and is called the age of renovation. This was as far as Renouard carried his history, but I think we may carry it down to the present time by adding one more century and call it the age of anesthesia, bacteriology, asepsis and antisepsis.

The oldest documents we possess relative to the practice of medicine are from the pen of Hippocrates, a learned descendant of Æsculapius and a contemporary of Socrates, who lived from 460 to 400 B. C., a man of fine judgment and common sense; a bold and fearless surgeon, whose lofty ideals regarding his profession are beautifully shown in the Hippocratic Oath, which even at the present day is considered a worthy guide for every true member of the profession.

Among the Egyptians, medicine flourished at a very early day. Here every doctor was a specialist, each treating a separate portion of the body, according to Herodotus. Their fame extended to other countries, and their knowledge of medicine is celebrated by Homer, who in his fourth Odyssey describes Polydamna, the wife of Thonis, as giving medicinal plants to "Helen in Egypt, a country producing an infinite number of drugs, where each physician possesses knowledge above all other men." In those days doctors received their salaries from the public treasury, but very strict rules were applied to the practice of young doctors, whom Pliny regarded as "the only persons privileged to kill a man with impunity."

Babylonia and Finland managed to get along without physicians, but the Hindus tried to keep pace with the Greeks in medicine as in astronomy and metaphysics, while Rome imported nearly all of her physicians from Greece.

From the time of Galen, whose title to fame rests largely on his anatomical studies, up to the end of the second period, we find medicine making very slow progress. Medieval med-

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icine labored under great difficulties from the fact that dissection was forbidden by the clergy on the ground that it was impious to mutilate a form made in the image of God. This pious objection, however, did not interfere with such mutilation when effected by means of the rack and the wheel and such other clerical rather than medical instruments. During the reign of Philip the Second of Spain, a famous Spanish doctor was actually sentenced by the inquisition to be burned for having performed a surgical operation. Such being the attitude of the church toward medical progress, it is not surprising that medical science should have stagnated.

The first English college of physicians was founded in the 16th century during the reign of Henry the Eighth, and was a long stride forward in the progress of medical science. Paracelsus, the noted Swiss physician and chemist, flourished at this time, as did John Baptist Van Helmont, a native of Belgium, who promulgated a new rule of life based on the doctrines of Christianity. This century also gave us Ambrose Paré, the "father of modern surgery," and inventor of the ligature to control hemorrhage.

The 17th century gave us Harvey, and his discovery of the circulation of the blood; Pecquet, and the discovery of the lymphatic circulation; Descartes, and the dawn of modern physiological science; the introduction of Peruvian bark as a cure for malaria; and Sydenham, "that prince of practical physicians and father of rational medicine."

The 18th century gave us the work of John Hunter in surgery and anatomy; the introduction of the microscope in medicine; the physiological views of Bichat; the investigation of Haller, and last and greatest of all, Edward Jenner, the discoverer of vaccination as a preventive of smallpox, whose far-reaching benefits to mankind are beyond compute. Cuvier has said, "If vaccine were the only discovery of the epoch, it would serve to render it illustrious forever."

The progress of the medical profession during the 19th century was greater than during all the thousands of years before. The lamp of science which began to illuminate the temple of medicine with the classical writings of Hippocrates has shone brighter and brighter through succeeding ages until the mar-

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velous achievements of the 19th century have made of it a powerful electric searchlight, penetrating every nook and corner of the temple, and shedding a glorious effulgence over the entire world.

The medical profession by virtue of its achievements in the 19th century alone has a valid claim for recognition in the Temple of Fame. Who can estimate what humanity owes to anesthesia, that God-given boon, that freed surgery of its terrors, smoothed the knotted brow of suffering, and enabled countless thousands to endure in blissful unconsciousness, the most terrible ordeals? Who can compute the number of lives saved that must have been sacrificed, but for the skillful application of the surgeon's knife while the patient slept his dreamless sleep?

The discovery of ether anesthesia surely was of greater benefit and importance to humanity than any other discovery in the field of science that had come in the century, and it was solely of American origin. To Dr. Crawford W. Long of Jefferson, Jackson County, Georgia, belongs the proud distinction of having performed the first surgical operation under ether anesthesia in the history of the world. In March, 1842, Dr. Long removed a tumor from the neck of a Mr. Venable while he was insensible from inhaling the fumes of ether. Three months later he similarly removed another tumor from him, and again in 1842 and 1845 he operated on three other patients and none felt pain. His operations were known and talked of in the neighborhood of the obscure little town where he lived, but Dr. Long did not publish his discovery at this time, as he wished to test it more thoroughly before giving it to the world.

By one of those curious coincidences, not uncommon in the history of discovery, another investigator, Dr. W. G. Morton, a Boston dentist, was experimenting with anesthetics at the same time that Dr. Long was pursuing his investigations, each knowing nothing of the other's work. Dr. Morton's first test of ether in a surgical operation was at the Massachusetts General Hospital, October 16, 1846, when Dr. J. C. Warren removed a tumor from the neck of a patient under ether administered by Morton. On the next day a severe test was made when

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Dr. Hoyward performed a more difficult operation, the patient being entirely insensible and continuing for a long time, but with no apparent danger to life.

In the words of Sir James Paget, "It might also be said that in every place, at least in Europe, where the discovery was promoted more quickly than in America, the very month might be named before which all operative surgery was agonizing and after which it was painless."

Before confining myself to the achievements of American physicians during the 19th century, I cannot refrain from mentioning some of the beacon lights that shine in the firmament of Europe, illuminating the glorious pathway of science; Virchow, the founder of modern cellular pathology, whose name is now ringing round the world; Robert Koch, the father of bacteriology, who immortalized himself years ago by the bacteriologic researches he made when a general practitioner at the provincial town of Wollheim; Billroth, the great Viennese professor whose work on surgical pathology was translated into nearly all the languages and is used in almost every medical college in the world; Helmholz, inventor of the ophthalmoscope, and founder of ophthalmology as a special department of science.

Some brilliant stars in the English medical firmament are Ogston, the discoverer of pus microbes; Victor Horsley, who did so much in cerebral localization; Sir James Paget, and finally Lord Lister, whose discovery of antisepsis and its legitimate outgrowth, asepsis, go hand in hand with anesthesia in making possible the marvellous achievements of modern surgery.

Sunny France gave to the world a man whose wonderful work brought the era of immunization from the morning twilight of Jenner's immortal discovery into the brightness of the day. Louis Pasteur inaugurated a work that, wonderful as it is today, has not yet reached its noonday, "but throughout the coming years men imbued with the spirit of Pasteur's work will go on investigating with the test tube and the microscope until, in due time, he who will, may become immune from disease."

As soon as the American nation might be fairly said to have

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adjusted itself to its environments and novel system of government, American medicine began its honorable and beneficent career; and its devotees began to prove themselves worthy of membership in a profession that had accomplished so much of benefit to the world. In a recent scholarly address at Memphis before the Tri-State Medical Association, "On the Evolution of Gynecology," Dr. W. D. Haggard affirmed that the present degree of perfection in diagnosis and the correct application of enlightened therapeutic resource are dependent on four great epochs:

"1st. The first ovariotomy.

"2nd. The discovery of the duck-bill speculum and silver sutures in surgery.

"3rd. The discovery of anesthesia.

"4th. The introduction of antisepsis and asepsis.

"It is of supreme significance to American physicians that three of these are tributes from America to the "Universal Altar of Science."

"Indeed, this association is now convened at a spot about midway between the scene of the first ovariotomy in the history of the world by Ephraim McDowell at Danville, Ky., and the place where J. Marion Sims, the 'Father of American Gynecology,' began his immortal labors in behalf of suffering woman at Montgomery, Ala.

"It has been truly said that the achievements which were wrought in these familiar spots were freighted with more beneficence to mankind than any of the fifteen decisive battles of the world."

Dr. Haggard has so beautifully described the memorable operation of McDowell that I am sure you will pardon my quoting his words:

"Our race is too virile and busy to pause for reverential contemplation of the spots, or even the deeds of its contemporaries, * * * * and yet when other years and other tongues their tales of valor tell, where, oh! where, will one find such intrepidity, such commanding courage, such sublime conception, such calm contemplation of doing that which was never done by human mind or hand before; that which experience and judgment would dictate meant almost certain death,

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as displayed in the deliberate opening of the sacred confines of the abdominal cavity for the first time in the annals of mankind? When we reflect that this was done in the backwoods of Kentucky in 1809, not only without precedent, but without previous experience, without assistance, and, strangest of all, without anesthesia, it becomes all the more remarkable. The story of the mob clamoring at the door, crying that his life should pay for that of the sufferer, is familiar to you, but it may not be generally known that this fearless and pious man had written a beautiful prayer and pinned it on his person, so that in the event of his death, it might perchance fall under the eyes of his beloved wife, that she, at least, might know of the sincerity of his purpose. In the light of the marvellous results to posterity by the miraculous recovery of that brave woman, one cannot refrain from exclaiming, surely God was the surgeon and McDowell the instrument in his hands."

The wonderful discoveries which made the name of J. Marion Sims ring round the world were his operations for the cure of vesico-vaginal fistula, and for the repair of the various accidents incident to parturition.

But our profession in America has had many other members whose contributions to science entitle them to be immortalized in the memory of all who revere and appreciate true greatness. In the realm of pyschology, Dr. Benjamin Rush, aptly called the "Sydenham of America," was a shining light. He led the reform movement in America in the interest of the insane, and in conjunction with Drs. Daniel Tuke, of England, and Esquirol, of France, succeeded in remedying the terrible abuses in madhouses; and by their united efforts humane and scientific treatment of the unfortunates was inaugurated. Dr. Rush was a signer and advocate of the Declaration of Independence, and served as surgeon-in-chief of the Continental army. He planned the first dispensary in the United States at Philadelphia, and was a member of the convention which ratified the Federal Constitution. Retiring from politics, he became professor of the Theory and Practice of Medicine in the Philadelphia Medical College, and was so successful in the treatment of yellow fever in 1793 that he was believed to have saved the lives of 6000 persons.

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The limits of this paper will not admit of more than a bare mention of other distinguished members of the medical profession whose achievements entitle them to honor and fame.

Dr. Joseph Leidy, of Philadelphia, called the "American Anatomist," was the first man to find cysts of trichinæ in pork, a discovery not alone of great value in itself, but of still greater benefit in the directing of scientific medical attention to the subject of microscopic parasites in general, and their causal relations to the diseases with which mankind is afflicted.

Would that I had time to sketch the life and labor of Chas. D. Meigs, whose beautiful writings on woman and her diseases rank high in the field of medical literature; Samuel D. Gross, the matchless surgeon, whose contributions to surgery caused him to be honored by every civilized country in the world; Austin Flint, whose work on practice of medicine, and his masterly interpretation and commentary on the code of ethics, stand as monuments to his unselfish greatness; and I would mention Oliver Wendell Holmes, whose literary genius as well as his skill and learning as a physician entitle him to a place in the Hall of Fame, but he has not been dead ten years, and is therefore ineligible at present.

Finally, I affirm that the medical profession is entitled to representation in the Hall of Fame, because of its lofty aims and noble purposes: to lessen human suffering; to lengthen human life and to augment human happiness; and, in conclusion, I beg the privilege of introducing the testimony of a distinguished member of another profession, the Rev. C. H. Strickland, D.D., who, in his last public address before his death, welcoming the Tennessee State Medical Society to Jackson, paid the following beautiful tribute to the medical profession:

"Your profession is one that we delight to honor. You stand, you assist, you aid, you help into life, you start a ship on its voyage, and all along its career you are by the side to care for, to nurture, to guard and to help. And when death comes and knocks with his spear-head on the gate, you are still there to sooth and wipe away the death damp. Said I not that we delighted to do you honor? Gentlemen, we of the laymen welcome you to Jackson because your work is a

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grand work—a work to relieve human suffering, to augment human happiness and to increase human longevity. * * * Dignity and honor belong to you; they crown your profession with a diadem that sparkles brighter than that which rests upon the brow of any other profession of the earth. You have the *entrée* of every home in the land. You are the custodians of the secret of every family in the land. You are the guardians of husbands and fathers and mothers and children. Said I not truthfully that dignity and honor belong to the medical profession? Show me the man that guards my eye, that opens and shuts 30,000 times a day; show me that man that puts his hand upon my heart and tells me truthfully that there is a power there that drives seven miles of blood through veins as long ever so many hours; show me the man that tells me that I have millions of nerves, and that each is a sentinel to tell of approaching danger, and I will show you a man, if he is conscientious, if he is honorable, if he understands the real ethics of his profession, who stands above the fog, a true man, a tall man, suncrowned. But he must have skill, and skill comes with study and experience. He must have patience, and tenderness, and sympathy, and gentleness, and if his touch is as soft as that of a woman, all the better and all the easier will the bitter medicine glide down the throat of his patient. And if he uses a knife, let him understand also the employment of anesthetics, and be careful that his own nerves are as steel, not to vary the hundredth of an inch. Honorable profession! You will pardon me for saying, possibly you know, that of the thirty-three recorded miracles of the great Physician of Nazareth, twenty-four, sirs, were for the relief of human suffering; thus honoring your calling, thus honoring your profession."

Treatment of Carbuncles.—Bidder proposes to shorten the progress of a carbuncle by injecting a 2 per cent. solution of carbolic acid into the fibrous surroundings and subsequently covering with plaster. After this there is considerable pain, but the abortion of the carbuncle is remarkable.—*Med. Press & Circular.*

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ORIGINAL ARTICLES.

PNEUMONIA.*

BY B. G. HENNING, M.D.
MEMPHIS.
Professor of the Principles and Practice of Medicine, Memphis Hospital Medical College.

I HAVE selected for my subject, pneumonia, not that I can add to our present knowledge of the disease, but that I may offer a few suggestions, which, to me, simplify the study of this very fatal malady. I shall state primarily that all pneumonias, independent of the cause, are one of two anatomical lesions, viz., exudation, or productive inflammation.

When we refer to our textbooks, we find ourselves confused in the index by such terms as lung fever, pneumonitis, croupous pneumonia, parenchymatous pneumonia, lobar pneumonia, fibrinous pneumonia, lobular pneumonia, catarrhal pneumonia, broncho-pneumonia, etc., many of which are synonymous. No doubt the day is in the near future, when the classification will be determined by the cause, and we will then have pneumococcus pneumonia, streptococcus pneumonia, tubercular pneumonia, and the like, in lieu of the arbitrary terms now used.

Pneumonitis designates an inflammation of the parenchyma of the lung, that is, the air spaces and smallest bronchioles, as distinguished from the larger tubes and pleura. That we may more thoroughly understand the pathological changes which take place in the lungs in various forms of pneumonia, allow me to call attention, first, to the anatomy of the lungs, and then to the types of pulmonary inflammation.

When a child is born, previous to its first inhalation the air passages and cells are not dilated, but with the first breath the cuboidal epithelium lining the air spaces becomes flattened and the cells dilate. The mucous membrane lining the greater part of the broncho-pulmonary tract does not extend into the air passages and cells, but ends at the termini of the bronch-

* Read before Tennessee State Medical Society, Memphis, April 10, 1902.

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ioles, leaving the walls of the air spaces, a thin connective tissue membrane strengthened by elastic fibers and abundantly supplied with capillary vessels, ready for the exchange of oxygen as carbonic acid gas.

In infant and child life, the bronchi and stroma constitute the greater part of the lung, while in adult life, they compose relatively a much smaller part of the lung, the air passages and cells greatly predominating. Studying separately the anatomical parts of the lung, we have, first, the interstitial tissue or stroma holding in place the component parts of the lung, and in which are imbedded the lymphatics, blood vessels and nerves, which may be the seat of an exudative, productive, suppurative inflammation. Second, the bronchial tubes, bronchi and bronchioles, with walls formed of a connective, muscular and cartilaginous tissue, lined with a mucous membrane extending from the mouth and nose to the beginning of the air passages, which may be attacked by catarrhal, croupous or productive inflammation. Third, the air passages and vesicles in which the aeration of blood takes place, with walls of a simple connective tissue no longer a mucous membrane, which may be invaded by an exudative or productive inflammation. The blood vessels, which are large and numerous, woven net-like into the walls of the air spaces, if obstructed in any manner, impair the respiratory function, and if the obstruction is long continued, as in heart lesions, or the inhalation of irritants, such as coal or stone-dust, changes in the lung structure must result. Inflammation may attack the entire lung, or attack separately the component parts, viz., the stroma, bronchi, or bronchioles, or air spaces.

Inflammation of a lung, like inflammation of other tissues, presents pneumonia; first, of changes in the circulation of blood; second, in the escape of blood elements through the courts of the vessels into the surrounding tissues; third, degeneration or necrosis of tissue; fourth, growth of new tissue; fifth, the growth of microörganisms and evolution by them of toxins. These various phenomena may occur separately or in combination, and we find in pneumonia in all of its forms, either an exudative inflammation, that is, an inflammation the exudate of which predominates, or with fibrous

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exudate predominating. In either of these types of inflammation may occur suppuration or necrosis. In other words, an abscess or gangrene of the lung.

All forms of pneumonia may be produced by the same micro-organisms. That is, Fraenkel's or Pfeiffer's germ, or the streptococcus, the anatomical character of the lesion being determined by the predisposing cause, or the age of the patient, the productive form appearing in either extreme of life.

Under the head of exudative pneumonia, we may include parenchymatous, croupous, lobar, fibrinous pneumonia, or any other pneumonitis characterized by an exudative inflammation; whilst under the term productive pneumonia may be included broncho, lobular, interstitial and all others characterized by production of new tissue growth, such as inspiration, typhoid, tubercular, decubitus and syphilitic pneumonia. I have purposely omitted catarrhal pneumonia for the reason that catarrhal inflammation means nothing more or less than an inflammation of the mucous membrane, and as the mucous membrane in the lung is confined to bronchial tubes and does not enter into the composition of the air passages or cells, I think it proper to designate such an inflammation of the mucous membrane lining the bronchial tubes a catarrhal bronchitis, and if involving the small tubes or bronchioles, capillary bronchitis. I cannot conceive of the rationale of the synonym of catarrhal and broncho-pneumonia, when an acute catarrhal inflammation of the bronchial tubes is an exudative inflammation confined to mucous membrane, while the constant and essential lesion of broncho-pneumonia is a productive inflammation and involves the walls of the tubes and stroma of the lungs, causing lobules or circumscribed areas of inflammation, even to the extent of an entire lung. A catarrhal inflammation may begin in the upper air passages, and by continuity of tissue descend bilaterally through the bronchial tubes, bronchi and bronchioles to the air passages, but when attacking the air or connective tissues beyond the terminus of the mucous membrane, then it ceases to be a catarrhal inflammation, becomes a type involving the lobules, and by a new tissue growth solidifying them, which is lobular pneumonia, secondary to a catarrhal bronchitis. Or, there may be a lobular pneumonia in infants independent

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of the catarrhal bronchitis, in which condition there would not be heard a moist râle of any kind, nor a cough—a not infrequent cause of death of infants which is never recognized.

Pneumonia or influenza or Pfeiffer's germs, unlike other forms, is characterized mainly by a congestion of the capillaries, rather than by an exudation or consolidation, or proliferation of new tissues, though either condition may obtain in many cases, and according to my observation more frequently attacks the left than the lower right lung. All inspiration pneumonias, and those due to cardiac insufficiency, tuberculosis, syphilis, and the like are a productive kind, and yet in many cases, if by the exciting cause the inflammation is made very active, there may be an associate exudate of serum and even a diapedesis, and the condition of the lung depends upon the cause, that is, as to the extent and location of the new tissue growth.

The duration of pneumonia depends upon the type of the inflammation. In exudative pneumonia defervescence occurs regularly on the fifth, seventh, or ninth days; in this latitude most frequently on the ninth. But when can the cooling period be expected in productive pneumonia? Certainly not within nine days, nor even a fortnight, and not infrequently it lasts weeks and even months, and in many cases, by the new tissue growth, leaves the lung permanently impaired, especially in the aged.

An acute catarrhal bronchitis, so frequently called bronchopneumonia, especially if limited to the larger bronchial tubes and bronchi, may end in a few days, having passed through the three stages of a catarrhal inflammation; but let the inflammation extend beyond the mucous membrane into the air spaces and connective tissues, and it assumes a productive form, and we may expect a fever of longer duration.

Symptoms. The symptoms and physical signs are too well known to be discussed; so suffice it to say, the differential points of diagnosis are, that an acute exudative pneumonia is a disease mainly of adult life, rarely found under the age of 5, and in extreme old age, unilateral, except in a double attack, ends by crisis, and is characterized by sudden onset, with chill and high temperature, and the concomitant pleuritic

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pains, with shallow and rapid respiration, cough and expectoration of brick-dust sputa; face flushed and cyanosed and anxious; physical examination shows, over affected lobe, increased vocal fremitus, dullness, bronchial breathing and bronchophony, with, or without moist râles depending upon the presence or absence of bronchitis.

The productive form of pneumonia may be differentiated from the exudative by the previous history of a predisposing cause; by the age of the patient, that is, appearing in the extreme of life, while adolescents may have either form. The gradual invasion, the slow progress with lower temperature, the inflammation being less active, the absence of pleurisy before the fifth or sixth day, therefore little or no pain, the duration of the attack ending by lysis, rather than by crisis, the absence of brick-dust sputa, cough depending upon severity of bronchitis, which, if extensive, gives abundant muco-purulant expectoration, physical signs very variable. If inflammation is limited to the bronchi and adjacent air passages, there are no physical signs. If a catarrhal inflammation be present, there are coarse and sub-crepitant râles. The area of dullness and bronchial voice and breathing depend on the extent of consolidation, which usually is not developed before the third or even the fifth day, and not infrequently much later. When secondary to a catarrhal bronchitis, which catarrhal inflammation may be due to any irritant, it is bilateral because it is descending from the upper air passages; also if decubitus or typhoid, it is bilateral, but if from tubercular, cardiac, aspiration or syphilis, it may be either unilateral or bilateral. All productive forms of pneumonia have many features in common, and their distinctive differences must be based upon the preëxisting cause. The very aged may show only very slight physical signs, no fever, only marked prostration and delirium and often death, while very young infants give no physical signs and no cough, only fever, rapid breathing, prostration and often death. Alcoholics are likely to have high fever, active delirium or delirium tremens, and are in great danger of death in consequence of their habit.

Regular cases of pneumonia of either type may be mild or severe, end in recovery or in death, but all present alike the

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clinical picture of an inflamed lung. The course of the disease may be suddenly changed by a complicating bronchitis, pleurisy, endocarditis, pericarditis or nephritis.

Death may be due to heart failure, to some complication, to extent of inflammation, to general poisoning, or to thrombosis of coronary arteries. In an adult a temperature exceeding 104°, with a pulse of 120, respiration of 40, should be watched with constant anxiety. The mortality has not decreased with the advancement in the science of medicine. The general impression is that the disease is more fatal now than it was in the days of lobelia and the lancet. It has increased from 10 per cent. in the first decade, to 28 per cent. in the present decade, according to Delafield.

Treatment. Realizing that we in Tennessee and the adjoining States must see in every winter and spring more pneumonia and witness more deaths from pneumonia than physicians in any other State in the Union, I regret that I cannot offer a routine treatment. We have no treatment for the disease, and must content ourselves with meeting the symptoms as they arise. Statistics show us that in the States south of the 39th parallel there is a mortality:

	Per 1000 Cases.	Per 1000 Inhabitants.
Arkansas has annually.....	183.42	2.98
Mississippi " "	127.21	1.68
Alabama " "	123.81	1.47
Kentucky " "	78.79	0.95
Tennessee " "	84.03	1.04
In the States north of the 39th parallel:		
Pennsylvania has annually.....	44.84	0.58
Maine " "	51.22	0.62
Nebraska " "	87.30	0.93
New York " "	60.55	0.87
Ohio " "	60.27	0.65
Including all of the States the excess in the South is:	32.27	0.59

All cases of pneumonia should be put in bed and fed mainly on a liquid diet. Other than that, some cases are so mild that no treatment is required. In the exudative, in the stage of congestion and first days of inflammation, Norwood's tincture of veratrum in sufficient doses to soften and lessen the pulse

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frequency, diminishing the force with which the blood is driven into the inflamed lung, and physiological doses of nitro-glycerin to dilate the vessels throughout the body, thereby reducing the quantity of the blood sent into the lungs, are strongly indicated. One full dose of calomel, followed by sulphate of magnesia, serving as detergents to the diseased parts, and morphin to relieve pain and induce sleep, with an ice bag over the inflamed lobe, or a hot poultice— preferably the ice bag—should constitute the treatment of the first stage. Then digitalis should take the place of veratrum, strychnia the place of nitro-glycerin, and alcohol may be given if the weakness of the pulse demands it. If there be much bronchitis, and much purulent expectoration, small doses of ipecac, and large doses, 15 drops, of tr. nux vomica, every three hours, will serve well. The temperature should be controlled with some of the coal-tar preparations and cold sponging. Many physicians are strong advocates of quinin and the ammonia salts, but I have not been able to see any benefit from their effects. An excessive distension of the abdomen indicates a severe toxemia, and the heart and lungs may be interfered with. To obviate this, frequent irrigation of the bowel should be done.

Productive pneumonia in the earlier stages should be treated just as the exudative, but in the latter stages the iodides and codliver oil or petroleum emulsions may serve well, and if convalescence is slow a change of climate is advisable. Creosote bath, with creosote by inhalation and internally is much advocated, but I cannot claim any brilliant results from its use. Infants and very old people should be very carefully watched and all untoward symptoms met as promptly as possible. In pneumonia secondary to some other disorder, the preëxisting lesion should have proper attention. I look for much good to come from sero-therapy in the treatment of pneumonia, but as yet nothing is gained by its use.

299 Main street.

DIFFUSE PHARYNGO-LARYNGEAL LYMPHOMA.—Castex, at the recent meeting of the French Society on Otology and Laryngology, reports the case of a man 62 years of age, robust, who presented a lymphoma involving the lingual tonsil, left ventricular band, sub-lingual gland and left faucial tonsil. A fragment of the tumor taken from the lingual tonsil revealed pure lymphoma. Complete ablation being impossible, recourse was had to hypodermic injections of hydrobromate of quinin and cacodylate of soda (1-20 of a grain each). Sensible amelioration, diminution of tumor and arrest of emaciation followed. The patient returned to his customary life.

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MEDICAL EXAMINATION FOR LIFE ASSURANCE.*

BY L. M. VAN METER, M.D.

MEMPHIS.

LIFE assurance in its earliest and most primitive forms may be traced as far back as the ancient mutual and fraternal orders of the Greeks and Romans, or, as stated by an eminent authority, as far back as the building of the pyramids. One function of these benevolent orders was to extend aid to the sick among their membership; but as late as the 18th century life assurance had not advanced beyond the status of a wager or hazard upon isolated lives, in which the money lenders and insurers of the day, for a stipulated sum, would agree to assure the individual against death within a certain, usually brief, period, or against the hazards of certain enterprises, the terms of many of these wagers appearing fantastic and absurd.

Owing to the unsettled state of society, and to the many dangers to which persons were liable as a consequence, and to the frightful mortality from contagious diseases, life assurance upon a practical and scientific basis was impossible, and it is only since the first quarter of the 19th century that such conditions have been attained as to secure this end. Of this period, the past four or five decades have witnessed the greater part of the stupendous growth of modern life assurance.

The establishment of life assurance upon a secure and scientific basis has chiefly been due to two causes—the development of actuarial science, leading to the construction of accurate mortality tables, and to more careful selection of risks by medical examination. According to Greene, the Equitable Life Assurance Society of London, founded in 1762, was the first company conducted upon a rational plan, yet the regular employment of medical examiners was not resorted to till 1820, nearly sixty years later.

At first, applicants were required to appear before a lay board and receive its unanimous endorsement; later, a health certificate, signed by two persons, one a physician, was required.

NOTE.—Acknowledgment is made of assistance in the preparation of this paper derived from Greene's excellent work—P. Blakiston's Sons & Co.

* Read before the Memphis and Shelby County Medical Society, June 3, 1902.

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In 1779 the first regular medical examiner was appointed by a company, and not till 1820, as above stated, were regular medical examinations demanded. Two causes are assigned for this step—the payment of commissions to agents with the consequent danger of too great zeal in the securing of risks without the exercise of scrupulous care as to their desirability, or, as another authority states, perhaps with better reason, it was a natural result of the immense advance made in physical diagnosis, growing out of the application of the principles of auscultation and percussion to the diagnosis of disease, making it possible to detect many diseases in their incipiency—a matter of paramount importance to life assurance.

Since the early days of its inauguration there naturally has been a marked evolution of the medical examination, in the direction of thoroughness and efficiency, keeping pace with the development of medical science on the one hand and the advancing recognition of its importance to life assurance on the other. Every company now appoints medical directors to supervise this department of its business, and in their hands practically rests a veto power over every application. In addition, the medical department is further extended and strengthened in the appointment of medical referees or nominators, who recommend the local examiners within their territory, thus securing a higher standard of competency in the ultimate ramifications of the medical department.

The machinery of the medical department of the best companies has been adjusted to an almost perfect working, and the future can only look to the general elevation of the standard of medical education at large for further improvement in this direction, the importance of which we can estimate only when we reflect that in the hands of its medical department, more than any other, rests the final safety and prosperity of a company.

As one looks over the long list of questions upon the medical blank of any of the leading companies, there is little that could be added in the way of thoroughness, provided it be placed in the hands of a competent and conscientious medical man.

Little attention has hitherto been given to the subject of

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life assurance by medical faculties, considering its importance, and the vast army of medical men engaged in it, either as a part or the whole of their practice. Hence a physician who takes up this work has seldom had any training in the special needs and requirements of the work, and must learn by the slow and often expensive method of experience. While it is true that the main part of a life assurance examiner's qualifications consist in a thorough, practical medical training, yet there are many special considerations and technical points that may occasion doubt, and it is in this connection that some special instruction would prove advantageous and helpful. The attitude of the medical examiner toward the applicant for life assurance is exactly the reverse of that of the medical man in his usual capacity. In the latter relation it is to the patient's interest to tell all that he knows regarding his physical condition, which he usually does even to the point of repletion; but when he appears as a candidate for life assurance the conditions are quite reversed—it is now to his interest to appear at his best, and there is often, perhaps unconsciously, a tendency to minimize his disabilities. This, however, is not invariably the rule; for occasionally an examiner meets with an applicant who, because of either an exaggerated conscientiousness or an undue interest in his own clinical history, attaches an emphasis to trivial incidents beyond their due importance, requiring the examiner to sift and weigh the facts for himself. Hence the position of a medical examiner is that of an inquisitor or attorney for the prosecution, rather than his usual relation of confidant and adviser. His position is often a difficult and trying one; for while his first duty is to the company, whose interests it is his business to protect, there is, on the other hand, always a question of justice to the applicant, which he must also consider, as it is very difficult for an applicant, when once rejected, to ever afterward obtain assurance. However, when such questions and difficulties arise, it is clearly the duty of the examiner to state all of the essential facts, and give his company the benefit of any reasonable doubts.

The prime essentials of a good examiner, aside from competent medical skill and training, are courage and decision.

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He should carefully form his own opinion, feel assured that he is justified in it, and then stick to it at any cost. He should show due respect for his trained intuition in forming his estimate of an applicant, even when there is no distinct lesion or definite impairment upon which he can place his finger.

A further and most important qualification is the ability to draw a clear and concise pen picture of the applicant, so as to represent him upon paper to the medical directors, who must pass upon him, just as he appears to the examiner. Deficiency in this regard is one of the most common faults of examiners. They often fail to elucidate a point that raises a question in the minds of the directors, or more rarely perhaps, incline to the other extreme, and lay stress upon trivial points that have no bearing upon the assurability of the risk. Either mistake is apt to lead to the delay of a correspondence between the directors and the examiner, or place the applicant under an unwarranted suspicion. Nevertheless, the examiner must carefully guard against the suppression of any fact that may even remotely affect the risk; for the medical directors, with their wider experience, and the vast statistical knowledge at their command, may attach importance to a fact that to the examiner, in a particular case, may appear non-essential; such for instance, are points in the family history. Adding to the above qualifications a proper self-respect, an incorruptible integrity, a courteous and tactful demeanor, and a willingness to promptly answer the demands upon his professional services, and one has briefly a picture of the ideal medical examiner for life assurance.

Before closing this discussion it may be well to take up in detail, and briefly consider, some of the individual questions of the examination blank. Preliminary to this, I would state that as the medical examination is a part of the insurance contract it should be fully and clearly expressed, avoiding abbreviations and ditto marks.

In giving the applicant's age, it is well to add the exact date for the age given.

In giving the race, the race lineage, as well as the nativity, should be given.

Under occupation, be specific as to the exact nature and

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character of the business—if a merchant, what kind of merchandise? If a clerk or book-keeper, in what kind of business? There is frequently a moral or physical hazard in the applicant's occupation that should be definitely brought out.

Places of former residence should be fully and accurately given, with the period of residence at each place, so that the applicant may be easily traced at each place, should it become necessary.

Take especial pains to secure as accurate a statement of family history as the applicant can supply, inquiring carefully into the causes of death of deceased relatives, and the duration of the fatal illness, establishing a distinction between acute and ordinary diseases, and those that are chronic and apt to leave an hereditary taint. The influence of family history is especially important in its bearing upon risks that are under weight, or otherwise show a departure from a normal physical standard. In regard to the applicant's habits, try to obtain a definite statement as to the use of alcoholic beverages, drugs and tobacco, especially the first. It is well to try to express the consumption of any of these that he may be addicted to, by a general average of quantity and frequency of indulgence. After the preliminary questions have been answered, the pulse should be taken while the applicant is sitting quietly, and before the normal rate has been disturbed by embarrassment or by efforts at forced respiration. It should be tried at both wrists, to exclude the possibility of anomalous distribution or variation in the size of the radial arteries.

The applicant should now remove all the clothing from the waist upward, except the undershirt, and in the case of male applicants it is better to have this also removed. At any rate, it should be, at the proper time, pulled up from below to admit of direct inspection of the chest.

The usual measurements should then be carefully taken, with no greater thickness of clothing intervening than the undershirt. The actual weight and height should then be secured. Completing these necessary preliminaries, a systematic and thorough physical examination should then be begun and rigidly carried out in every case, performing in

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their order, inspection, percussion and auscultation, beginning with the heart, proceeding to the lungs and ending with the liver and spleen. A more detailed examination in any particular direction will suggest itself to the examiner as he proceeds. In the examination of the heart, the character, area, and outward limits of the apex-beat should be noted by inspection and palpation, a heaving and extensive impulse at once suggesting hypertrophy before the corroborative evidence of increased dullness and valvular murmurs has been adduced. In regard to the lungs especial care should be given to the supra and infra-clavicular and inter-scapular regions, where the examiner is not infrequently rewarded in the discovery of signs of incipient phthisis in individuals apparently healthy. Never be betrayed by apparent robust health, or the applicant's or agent's statements, into making a hasty or careless examination; for it is in the detection of incipient disease in just such cases that the examiner shows his value to the company. Not infrequently in such cases will one detect latent or incipient phthisis, Bright's disease, diabetes mellitus, locomotor ataxia, etc.

It often occurs that the pulse is out of bounds from excitement, exercise, or other temporary cause, and will need to be taken again before the applicant leaves the office, or it may be necessary to have him return for further observations. The same may be said of doubtful or temporary conditions of the urine.

The method to be employed in testing the urine may properly be left to standard works upon that subject, or to the special instructions that companies may issue to their examiners. A word in regard to a rapid and satisfactory method of testing for albumin. The most common and important morbid constituent may not be amiss. Fill a test tube three-fourths full of the urine, previously filtered, if not already clear, and grasping it with the fingers by the bottom part, quickly boil the upper one-third of its contents over a gas or alcohol flame. The tube should then be held against a dark background before a window, and even a slight degree of turbidity in the upper portion noted, as contrasted with the lower unboiled portion. A drop or two of nitric acid should then be added

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to prove its permanent or temporary character. The urine, if not already positively acid, may have been previously acidified by the addition of a few drops of acetic acid. Purdy suggests a refinement of this method, in addition to the urine before boiling of one-sixth of its volume of a saturated solution of sodium chloride, which prevents precipitation of the other abnormal proteid constituents, as well as the precipitation of mucin. For the accurate and proper application of this test, the urine must be absolutely clear, otherwise traces of albumin may be overlooked.

When it comes to the final rating of the case, bear in mind that it is far more important to have stated every essential fact of the case clearly and concisely, than to render one's own opinion of the assurability of the risk. The medical directors attach much less importance to the examiner's rating than does the examiner himself. Their opinion is formed from the facts presented, and they are little influenced by the examiner's rating, unless it is fully borne out by the written examination. If the examiner rates the risk as "fair only" or "doubtful," he should recapitulate his reasons for so doing, unless it is clearly apparent from the foregoing examination.

Any matter of delicacy that the examiner may not wish to embody in the paper, or which the limits of the blank do not admit of full discussion, may be conveyed to the medical directors in a private letter. Such communications are invited, and may throw much additional light upon the case.

DIAGNOSIS AND TREATMENT OF FRACTURES OF THE NECK OF THE FEMUR.*

BY BATTLE MALONE, B.A., M.D.

MEMPHIS.

Demonstrator of Operative Surgery, Senior Quiz Master to Chair of Surgery, Memphis Hospital Medical College.

THE accident of fracture of the femoral neck is one which most frequently occurs in elderly people, and while the accident does occur in the young, the history of the injury, the prognosis and the plan of treatment to be carried out are so

* Read before DeSoto County (Miss.) Medical Association, May 5, 1902.

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radically different that what may be said about the accident in the one class would not be at all applicable to the other. It is the fracture occurring in the elderly which confronts us with so many difficulties and perplexities, and what I will have to say upon the diagnosis and treatment of this injury applies only to this class of cases.

The diagnosis is rarely a difficult matter. An old person while walking trips over some trifling object, or in turning has the outer border of the foot to catch on some obstacle and falls heavily—the fall in some cases being secondary to the fracture, in others the cause of it. It has been argued by some that the fall is always a causative factor, but I can readily believe that even a small weight—which would be the obstruction met by the foot, applied through a long lever—the entire lower extremity, almost at right angles to a narrow portion of bone weakened by the changes of time, could produce there a solution of continuity, and I once had a patient, himself a physician, tell me that he was positive that he felt the bone snap in the hip before he fell.

With such a history we find the patient suffering pain in the hip, which is greatly increased by any movement of the leg; with inability on the part of the patient to raise the leg; with the foot everted, the extremity having rolled outward through the force of gravity. These symptoms are fairly constant, except eversion, which is present in about the ratio of eight to one, inversion taking its place in the smaller number of cases, the inversion being due it seems to an impaction with a backward displacement. In addition we have a relaxation of the fascia lata as compared with that of the sound side, a fullness in Scarpa's triangle, and shortening above the trochanter, evidenced by measurements either from the anterior superior spine to the inner condyle or malleolus, or, what is more accurate, making use of Nélaton's line and Bryant's triangle, the former extending from the anterior superior spine to the tuberosity of ischum, normally just touching the tip of the great trochanter, but where a fracture exists the trochanter will project above this line more or less according to the amount of shortening. Bryant's triangle, which should be made out on each side of the body, consists first of a line

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drawn around the body perpendicular to its long axis through the two anterior superior spines; second, the anterior superior spines are connected with the tips of the trochanter; third, the base is from the tip of the trochanter at right angles with the line first drawn. By a comparison of the two sides shortening is easily demonstrated by a difference in the length of the base lines.

Another sign which may be added to those already enumerated is bony crepitus, which can be obtained by gentle manipulation except where there is an impaction; but an attempt to elicit crepitus should never be carried beyond gentle manipulation, lest an impaction be broken up which might be of great aid in obtaining union. Not only for this reason, but lest the thick periosteum on the upper surface of the neck—upon the continuity of which depends in a large measure the nutrition and vitality of the upper fragment—be needlessly torn. It is frequently unnecessary to have the corroborative evidence of crepitus, for the history, inspection and measurements will decide the diagnosis.

Now, whilst in almost every case these signs are present, or at least enough of them to enable us to make a positive diagnosis, still many cases have been recorded where all signs diagnostic and confirmatory except pain have been lacking, even to the extent that patients, after having sustained a fracture of the femoral neck, have used the injured member for locomotion. In such cases a failure to recognize the condition, an emphatic negation as to the existence of a fracture, with the unqualified statement that a simple strain alone exists, would be followed by dire consequences for doctor and patient alike. Doubtless more than one of us have known of such a case, and have witnessed the embarrassment of the surgeon. That such mistakes may not occur, fraught as they are with such untoward results for all concerned, almost every author has uttered a warning, timely words of caution which should always be borne in mind, namely, when an old person sustains an injury to the hip, accompanied by a fall, never regard it as of trivial importance, however slight the symptoms may be, but out of a superabundance of caution never make more than a provisional diagnosis of sprain or strain, then require

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the patient to remain perfectly quiet for a few days until the symptoms clear up, or if a fracture should exist positive signs will be observed.

I believe that all recent authorities are practically unanimous in the opinion that the old classification and attempt at differentiation of these fractures into intra- and extra-capsular is without any practical value whatsoever.

The treatment of this injury presents many perplexities. In discussing fractures in general we are accustomed to say that there are only two indications—first, to bring the fragments into accurate coaptation, second, to maintain apposition by immobilization, etc. These indications carried out, a good result follows. But there is a higher indication, one that is present in every case and which outranks every other consideration, and it is to meet this paramount question that we are put to in treating fractures of the hip in the elderly. The indications are first to save the life of the patient, second to obtain, if possible, a limb which will bear our patient in comfort as he takes his few tottering steps to the grave.

Death occurs in these cases from shock—due to pain, etc.; from hypostatic pneumonia, a tendency to which is increased by having the patient's thorax lower than the pelvis; from exhaustion, due to continued confinement in irksome and irritating apparatus, or to bedsores; or from embolism. We want then a plan of treatment which will combat rather than induce these tendencies, and at the same time we desire to be able to hold out to our patients some hope of restoration of the function of the limb. The problem is to find a plan of treatment which meets both these indications, and I regret to say that the problem has never been satisfactorily solved.

To go over the different plans of treatment, for each of which zealous advocates have arisen, making most extraordinary claims for their respective methods. We have Senn's treatment, which is to incase the patient in plaster of Paris from the toes of the injured side and the knee of the sound side to the eighth rib, having a pressure screw set in the plaster over the injured trochanter. In other words, he treats this fracture as he would any other—by adjustment and immobilization with the view of obtaining bony union. This is the

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only method of absolute immobilization that has been devised, and if it could be carried out with safety as far as the life of the patient is concerned, it would give a functionally perfect result except in cases where there is an extreme osteoporosis, or in cases where the nutrition of the upper fragment is interfered with to such an extent as to cause loss of vitality. The objection is urged to this method that to carry it out requires long continued confinement, and the plaster chafing the skin produces pressure sores with consequent death from exhaustion or sepsis. Dr. Senn himself advocates the method, but he stands alone, every other surgeon so far as I know condemning its use.

Another method of treatment about which much has been said in recent years is with the Thomas hip splint. This has been modified recently by Dr. Ridlon, of Chicago, and the modification adds greatly to the efficacy of the apparatus. The splint, as modified, is made of soft iron, and consists of a main stem one and a half inches wide and one-fourth of an inch thick, made to extend on the posterior surface of the back and limb from on a level with the axilla to the calf, curving over the buttock. To this stem are attached transverse bars encircling the chest, thigh and calf, there being in addition a hip band to give pressure over the trochanter, to which perineal straps are attached for counter traction, fixed traction being attained by adhesive straps applied to the sides of the limb and buckled into the calf band. This is certainly a very ingenious device, but it seems that the plan of treatment embracing its use is open to the same serious objection as Senn's method, while it does not accomplish its main object, immobilization, so thoroughly as does the plaster jacket. I cannot see how this splint could fail to produce irritation and pressure sores during the time it is to be worn, which is from ten to twelve weeks. The designer of the splint described above, Dr. Ridlon, in speaking of the considerations of treatment says, "I cannot fully agree with Stimson, who says, 'The first consideration is to keep the patient alive, and, second, to obtain union.' I would not make it the first consideration to keep alive a patient of threescore years and ten if she must be * * * * a helpless cripple for the rest of

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her life. * * * * A younger woman had better be dead than a helpless cripple for ten years." These are rather bold words, and I do not fancy that I should like for my life to be placed in the hands of a man who could give utterance to them. Whatever a physician's thoughts may be as to whether a fellow man be better off alive or dead, there is one way only open to him, and we are never, thank Heaven, licensed executioners.

To hurry over another plan which has been offered, that of nailing the fragments together in an open operation, little can be said in its favor; some form of immobilization must be used to insure its success, and we have then all the dangerous tendencies of the fixation method plus the danger of infection, plus the added shock of anesthesia and operation.

There are various plans of treatment in which the principles of extension and counter extension are used with and without hip splints. One of the best of these methods is that recommended by Dr. Maxwell, of Keokuk, Iowa, thirty years ago. Dr. C. E. Ruth, of the same place, reported at the last meeting of the American Medical Association, twenty-five cases treated by this method with union resulting in twenty-two in four weeks, a most remarkable record. In this plan Buck's extension is put on with a weight of from ten to twenty pounds; and, in addition, another weight, of from seven and a half to fifteen pounds, running over a pulley on the side of the bed, attached to an adhesive strip, is applied around the thigh at the crotch, in such a way as to overcome external rotation and to pull upward and forward; the resultant force of the two weights, one at the side and one at the foot, is traction in the line of axis of the neck of the femur, rather than of the shaft. Of course this can only be approximated. The greatest objection to this plan is that, with the weights as given above applied, it will be necessary to elevate the foot of the bed about ten inches, and the side on which is the injured member about six inches. This depression of the thorax makes the likelihood of hypostatic pneumonia greater. This is avoided by having the trunk elevated on a bed rest after the first few days. If the weights prove irksome, as they will at times, they can be lightened or removed, but as a

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usual thing small weights, at least sufficient to overcome muscular spasm, will be found conducive to the patient's comfort. I believe, too, that if the extension is put on with the thigh and leg partially flexed, a pillow under the knee, the pulley being raised or lowered so as to keep the traction axis in line with that of the bone, the patient will suffer much less discomfort than with the limb fully extended.

The plan of treatment then which, to my mind, will come nearest meeting the requirements of the average case, and leave room for fewer regrets, is, after first combating shock, to put on extension, as I would prefer with the limb partially flexed, using the side weight also if desired. Give the patient at first liquid diet such as can be readily assimilated. After the first few days the patient can be raised and lowered in bed without pain. A little later, if extension grows irksome, lighten the weight or remove the weights altogether, and allow the patient to be turned on the sound side. Have only bright, sunshiny surroundings, allow only cheerful companions. As long as there are no untoward symptoms keep up extension, but if the patient's vital powers seem to be failing, as soon as it can possibly be done without excessive pain, get the patient up into an invalid's chair and move him into the sunshine outdoors, or with some retentive apparatus—such as the Thomas splint, which can be utilized here as a valuable aid—get the patient on crutches. Such a course of treatment will frequently be followed by union—whether bony or fibrinous no one can say. But the results are such with every mode of treatment yet offered that there is left much to be desired. A conversation was once overheard between two drummers, one of whom was going for the first time to a town in which there were only two hotels. He asked his companion to which he had better go, and received the following reply, "It makes no difference; go to either one and you will wish you had gone to the other."

Porter Building.

Who ever saw the earliest rose
First open her sweet breast?
Or when the summer sun goes down
The first soft star in evening's crown
Light up her gleaming crest?

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THOUGHTS ON MENSTRUATION.

BY BYRON ROBINSON, B.S., M.D.
CHICAGO, ILL.

THE menopause signifies the cessation of the menstrual organ (uterus and oviducts) and the incapacity of reproduction. However, reproduction diminishes several years before the entrance of the menopause. The menstruation requires about two and one-half years of gradual, irregular diminishing to cease completely. Forty-eight years in moderate climate is the average of completed menopause. Race, climate and conditions of life modify the time of the menopause in either direction; early menstrual entrance produces late menopause, cold retards and heat hastens the menopause. The chief condition of menstruation in the menopause is irregularity in time and quantity; scanty flow or menorrhagia is the rule. Ovulation continues subsequent to the menopause, as it did previous to puberty. *In severe hemorrhages during the menopause and later the genitals should be examined to decide whether a growth exists* (carcinoma, sarcoma or myoma). Most women who suffer during and subsequent to the menopause generally manifest the disturbances previous to or in the beginning of the menopause. The women suffer from debility of life's energy. The afflictions of women at the menopause are characterized by a wide zone of individual variation. The most highly cultured generally suffer the most. The neurotic and neuropathic suffer severely. She complains of storms in the tractus vascularis (the vaso-motor center is disturbed), flushes, storms in the tractus perspiratorius (the sweat center is disturbed), sweatings and storms of temperature flushes (the heat center is disturbed). She complains of disordered visceral rhythm, as cardiac palpitation, of asthma, irregular long rhythm of the tractus intestinalis, cramps, globus hystericus (esophagus), of indigestion, constipation, diarrhea and meteorism, of the tractus urinarius, as excessive, deficient or disproportionate secretion of urine and of irregular bladder evacuations. She complains of her muscular system, as cramps, spasm or paresis. She complains of general disturbed sensibility, cerebral, cerebro-spinal and sympathetic,

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as hyperesthesia and anesthesia in skin mucosa, body walls and viscera. Dizziness, faintness, sleeplessness, despondency and melancholia and even psychic disturbances may exist. Besides, afflictions of the menopause may exist some time after cessation of the menstruation. In the menopause the senile atrophy of the tractus genitalis begins and progresses to the end of life. The chief factor is the atrophy of the hypogastric plexus. It is no longer able to carry the orders of rhythm from the abdominal brain to the tractus genitalis (especially the menstrual organ, uterus and oviduct).

The ovary shrinks gradually, it becomes smaller, firmer, and acquires an uneven surface, resembling that of a peach stone. The follicles disappear slowly through the years. The connective tissue stroma develops itself at the cost of those of the parenchyma in cellular elements.

The muscularis of the tractus genitalis suffers marked atrophy, especially the myometrium; the next is the myosalpinx, while the vaginal segment suffers the least in senile muscular atrophy. The muscularis does not only atrophy, but its cells disappear by being crushed out by proliferating connective tissue. The portio vaginalis may almost disappear, presenting the external os as a small opening in the vaginal vault. The vaginal fornices almost disappear, becoming smooth, shorter and narrower, often presenting a funnel shape. The myometrium becomes thinner, the myosalpinx decreases, allowing the oviducts to assume their original embryonal spirality. The vaginal mucosa loses its rugæ, becomes smooth and pale, and the vaginal lumen becomes narrow and short. The endometrium becomes thin, smooth, atrophic. The cilia disappear and the mucosa uteri contracts. The endosalpinx loses its luxuriant folds, becoming thin, pale and smooth. The cilia disappear and the oviductal lumen contracts. The uterus in senility frequently lies short and small—retroverted. The external genitals atrophy, the adipose tissue disappears. The utero-ovarian artery atrophies, calcifies and loses its marked spirality. The breasts become flaccid, the glands disappear, the sexual passion vanishes, the pomiculus adiposis increases, but the plump, round form exists no more. The hip and nates region wither, but the

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skin and connective tissue is slackened, making portions of the body present a pendulous condition. Diseases of the tractus genitalis markedly diminish in senility because function is checked. Germs prosper in functionating organs where food is ample. The benign myoma shrinks, malignancy flourishes and genital ptosis increases.

Menstruation is not merely a local process of the genitals, but is a partial sharer in important functional processes in the life of woman; it is a rise and fall, an ebb and flow of her vascular system.

The menstrual, cyclical, rhythmical wave extends to the temperature (caloric center), pulse, tendon reflexes, blood pressure, musculature, tractus respiratorius (center), tractus intestinalis, tractus urinarius, color of skin, tractus perspiratorius (sweat center), tractus vascularis (blood center). In fact, all the special nerve centers, with their extended tracts, are more or less influenced by the menstrual rhythmical wave. The energies of the functions reach their maximum in the pre-menstrual phase and gradually sink to a minimum in the intra-menstrual and post-menstrual phases. In the beginning of the inter-menstrual phase, the functions again assume their normal courses. The nervous system is at its highest point of action, the most irritable, the most congested at the end of the pre-menstrual phase. The vascular cyclical (sympathetic) menstrual wave begins at puberty, when the automatic menstrual ganglia and utero-ovarian arterial circle spring into activity and cease at the menopause. The exclusive existence of the vascular menstrual wave during adult sexual life indicates how powerfully the sexual sphere rules the general organism. The chief anatomic change in the genital apparatus during menstruation is hyperemia. The chief physiologic change is hyperglandular secretion. The general hyperemia is chiefly manifest in profound venous congestion. The uterus is more extended and heavier. The canalis cervices widens and the os externum becomes more patent. The portio vaginalis appears bluer. The mobility of the uterus appears lessened on account of its occupying more space. It extends more distalward. The lymphatics are engorged. The venous congestion of the uterus is enormously increased. The uterus is

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in constant active rhythm. It is the seat of the menstrual blood.

The oviducts, hyperemic, enlarge, their tissue softens, their spirals become more extended, they swell from congestion and edema. From their increased size they feel thicker and stiffer, and extend more distalward from weight and following the uterus. The venous congestion of the mesosalpinx is extensive. The lymphatics are engorged. The oviducts are in a constant state of peristalsis during menstruation from active congestion, bathing the automatic menstrual ganglia with an extra amount of blood. The vagina becomes blue, hyperemic, swollen, edematous. The rugæ vaginæ thicken, and the vaginal lumen narrows. The vaginal secretions are increased. The proximal end of the vagina is forced distalward by the heavy, enlarged uterus and portio vaginalis. Blood and mucus are found in the vagina. The vulva is enlarged and edematous from active congestion. The labia minora thicken, appear erect and become reddish blue. The labia majora swell and manifest more pigmentation. The vulvo-vaginal and peri-urethral glands increase in activity, extra mucus appearing in the vulva. The characteristics of the vulva during menstruation are hyperemia and glandular secretion and more coloration.

The genital glands secrete more actively, producing a peculiar odor, a remnant faricient of animal sexual life.

The genital apparatus (vagina, uterus, oviduct and ovary) is supplied by the spiral segment of the utero-ovarian artery, and each segment shares in the menstrual congestion, because the tractus genitalis lies along the periphery of a vascular circle. Now all structures adjacent to the genital apparatus which are supplied by the utero-ovarian artery will share in the menstrual congestion.

The cause of menstruation is stated especially by recent German authors to reside in the ovary. Strassman considers that his experiment of injections in the ovary, increasing blood pressure, causing hyperemia of the uterus and external genitals, proved that menstruation is caused by ovulation. This experiment does not conclusively bear out the theory, because the utero-ovarian artery is a distinct circle whose arcs and arcades

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were originally found in the Wolffian body, and hence if one segment (the spiral segment) of the genital vascular circle be stimulated, the remaining or adjacent segments will share in the stimulation and congestion. Menstruation depends on the integrity of the whole genital apparatus, nerve, vessel, muscularis and mucosa, and especially its two special organs—the menstrual organ (uterus and oviducts) and the ovulating organ (ovary.)

The excessive articular glandular activity is especially noted by excessive mucus in the pre-menstrual and post-menstrual phases, i.e., at the beginning and ending of the bloody flow. Mucus flows with the menstrual blood, but the blood obscures it. The menstrual blood is normally fluid; it coagulates—is perhaps hardened by the alkaline cervical secretion. If the menstrual blood be large in quantity and rapid in flow, the alkaline secretion is insufficient to prevent coagulation, and hence clots of various sizes may become formed in the cavum uteri or vagina.

Microscopically the menstrual blood shows red and white blood corpuscles, epithelium of the tractus intestinalis, mucous cells, and numerous microörganisms. The average quantity is 2½ ounces.

The monthly rhythm occurs under certain types—as 28 day or 31 day type. In some women the menstruation recurs punctually, almost to the hour, in others its recurrence shifts one or two days in both directions. During gestation the bloody flow ceases from the genitals, but the woman may manifest symptoms of recurrence, as congestion and secretions from the genitals and nose. Also the breasts may swell, become sensitive, and premature parturition may occur. During nursing of the child the monthlies nearly always cease.

Molimina menstrualia, or physical (and rarely mental) disturbances of a general or local nature, occur in most subjects during menstruation. A woman may be otherwise perfectly well, but suffer disturbances. The menstrual disturbances are mainly in the pre-menstrual, but occasionally in the intra-menstrual, phases. They are easy tiring, burning, dragging. I remember one woman of 25 who had almost exactly three hours' pre-menstrual pain at each month, for which, unfor-

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tunately, a general surgeon performed hysteropexia. The patient was worse, but fortunately, in about a year, the uterus became freed, when she began a rational treatment for her endometritis and myometritis.

The pain which occurs during the intra-menstrual phase is mainly due to myometrial contractions caused by blood coagula in the cavum uteri. The mammary parenchyma shows slight nodular thickening. Mainly the disturbances of the breast occur in the pre-menstrual phase, and disappear with the beginning of the flow; the nipple projects erect, the areola darkens, the glands enlarge, and ill-defined pains exist, due to nerve pressure—trauma, from congestion.

The general manifestation of menstruation is an irritable debility. The woman of culture, as is shown by her nervous state, doubtless suffers more general disturbance than the woman of physical labor. There is no doubt that the menstruating woman conceals many of her subjective symptoms. It is frequently observed by the gynecologist that she is incapable of physical labor or persistent mental effort. As special but irregular symptoms are to be noted that she becomes easily physically and mentally tired or exhausted, she suffers flying pains and heat, palpitations, and especially headache or head pressure; nausea, but rarely vomiting, occurs; appetite is lessened, stools are retarded, the thyroid gland swells, the voice is somewhat hoarse, noticed especially in singers; the conjunctiva becomes slightly congested, tears easily arise, and dark shadows appear below the eyes; the field of sight becomes changed, the eye inflammations increase, asthenopia is intensified, and sweat secretion and salivation increase.

The general disturbances of menstruation are vaso-motor and reflex irritation. Woman's physical and mental condition is, in the vast majority of cases, changed during the four great functions of the sexual sphere—viz., menstruation, gestation, puerperium, and lactation. Ordinary functions are not accompanied with pathologic disturbances, but when a woman passes through the functions of menstruation, gestation, puerperium and lactation she is almost always afflicted with pathologic disturbances (physical and mental). Man has no sexual functions accompanied with pathologic conditions.

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As regards the casual connection of ovulation, vascular waves, menstruation disturbances and climacteric symptoms, literature presents many hypotheses. Under one hypothesis is produced by the influence of ovulation in the sexual adult woman a continuous formation of substance for the nourishment of the fetus. This substance accumulates during the vascular wave ("flow"); we may represent the rhythmical vascular waves of woman's functional life by the ebb and flow of the ocean tides. If pregnancy does not occur the accumulated substance passes away through menstruation ("ebb").

In the climacterium the substance continues for some time to accumulate, and there being no ebb creates the pathologic symptoms of the menopause. However, we do not know the natural history of an ovarian follicle, its time of maturation or its exacerbation or checks by vascular waves.

An adult sexual woman is liable to become pregnant at any time. Therefore we are not in possession of sufficient data to say whether the ovum of the last menstruation or the ovum of the non-occurred menstruation is impregnated.

The entrance of menstruation depends on climate, race and condition of living. Climate has reference to temperature and its results. Race has reference to heredity.

Conditions of living has reference to labor, education, culture, customs.

CORRESPONDENCE.

THE SARATOGA MEETING.

SARATOGA SPRINGS, N. Y., June 10–13.

Editor Memphis Medical Monthly:

In compliance with your request, I am jotting down a line here and there, of that which may be of more or less interest to our absent brethren, concerning the Saratoga meeting of the A. M. A.

First and foremost will be mentioned the reunion of kindred spirits, as they converged to meet at the different gateways along the line. Our Memphis party this year was shockingly thin; the whole contingent from the "Three States" might

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easily have been counted on the fingers of one's two hands, and have had fingers to spare. And it was with such extreme persuasion that these were prevailed upon to go, that their names deserve a page in medical history: Dr. Frank A. Jones, Chairman of the Section on Practice, A. M. A., of Memphis; Dr. and Mrs. E. C. Ellett, Memphis; Dr. and Mrs. G. W. Hudspeth, Little Rock, Ark.; Dr. J. B. McElroy, of Stovall, Miss.; Drs. J. P. Runyan and J. A. Dibrell, Little Rock, Ark.; Dr. S. P. Collings, Hot Springs, Ark.; Dr. Adam Guthrie, Prescott, Ark.; Drs. Herron and Shannon, of Jackson, Tenn.; Dr. G. C. Savage, of Nashville, Tenn., and Dr. Hall, of Mississippi.

At Cincinnati there were six hours to make use of before we could get a through train out for our destination. These six hours were consumed in a very pleasant trolley ride to Eden Park and the famous Cincinnati Zoo. This latter place is only another of those extremely interesting resorts, where one might spend hours, and even days, profitably.

At 6:30 in the afternoon we joined with the Cincinnati and Louisville delegations, and embarked upon the Southwestern Limited, to remain nearly twenty-four hours. About an hour's ride brought us upon a settlement of well-kept farms and stately farm-houses, nestling among the hills and the valleys, made more peaceful and homelike by the deepening shadows of the fading day. This beautiful spot was pointed out by the gentleman himself as the early home of our former President, Dr. Charles A. L. Reed, of Cincinnati.

A point of interest along here is the old Miami and Erie canal, which now apparently serves no better purpose than that of supplying moisture for vegetation along its course—this is especially true of the lower or southern extremity of this canal. The real and early use of the great canal system inaugurated by Gov. DeWitt Clinton, the canal governor of New York, 1817–28, was graphically exemplified to the casual observer by the presence of man, mule, tow-path, tow-line and canal boat on the Erie canal which connects Lake Erie at Buffalo and the Hudson river at Albany and Troy, and on the old Morris canal, between the Delaware and Hudson rivers. The latter was constructed by a Mr. Douglas, of New York. The length is 108 miles between the two rivers, and the whole

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rise and fall is 1557 feet, of which 223 were overcome by locks, and the remaining 1334 by inclined planes. We were told that this painfully slow method of transportation was, indeed, a very great factor in freight traffic competition, and is to this day; and that the rights of the canal before the different legislatures have ever been held inviolable—the legislator who would exhibit the temerity to raise his voice against the vested rights of the canal, in New York or Ohio, is condemned, for all time, to private life.

We arrived at our destination at 4:30 P.M., Monday. Rooms were hurriedly secured, and the act of registration was completed and each member was in proper affiliation.

The resident population of this village, according to the census of 1900, was 12,500; this, it is said, in the summer, is increased to something like 50,000 by the month of August.

"Fairly well authenticated tradition assigns to Sir William Johnson, the redoubtable Indian tamer, accomplished American baronet and far-seeing colonial statesman, the distinction of being the first white visitor to the springs. In 1767, he was borne by his faithful Indian carriers to the High Rock Spring to partake of its healing waters, according to some reports, because of serious disease, and according to other reports, to aid in his recovery from wounds received in battle. That this first discovered of Saratoga mineral fountains had long been esteemed by the red men of the country, there is indisputable evidence. Just how far back the Indians were accustomed to resort here it is, of course, impossible to determine, but in the misty past some of the seekers for health at the fountain left behind them unimpeachable testimony of their presence.

"Although the altitude of Saratoga is but moderate, it is surrounded on all sides by forest-clad hills and mountains, which serve to protect the region from the violence of storms and to modify profoundly the temperature conditions of both summer and winter, and insure against extremes of heat and cold. To the northward stretch the vast domains of the Adirondacks; to the west lies the Kayaderosseras range; to the east are the wooded slopes of Washington county across the Hudson; while a few miles beyond the Green Mountains

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tower in majesty. To the southward, the northern branch of the Catskills limit the horizon."

It might be of interest to discuss some of the reasons why the springs appear at this particular spot in the earth's crust. It is said by the geologists that the Adirondack range is the very backbone of the continent, and represents, probably, the first dry land of the world. The systems represented here are the Laurentian or granite, and the few strata resting upon the Laurentian at Saratoga, of the lower Silurian age. They comprise from below upward the Potsdam sandstone, calciferous sand rock, Trenton limestone, and Utica or black slate.

In some mighty seismic disturbance there resulted a fracture of the strata extending in the general direction from northeast to southwest, followed by the upheaval of the rocks upon one side of the fracture or by the subsidence of those upon the the other, so that the various strata of like formation are no longer upon the same level. This condition is known as a "fault," and is not inaptly characterized by George Alfred Townsend as a "geological indiscretion." The existence of this fault determines the appearance of the springs in this neighborhood.

There are at least two theories offered to account for the mineralization of the waters and the notable saturation with carbonic acid gas, but their mention would cover more space than I am allowed, so I will spare the reader.

The general meetings were held at Convention Hall on Broadway, after the following order:

Opening meeting, Tuesday, June 10–11, A.M.

Call to order by the President, Dr. John A. Wyeth, New York.

Opening prayer—Rev. T. F. Chambers, Saratoga.

Address of welcome, by Hon. S. F. Nixon, Speaker of the New York State Assembly, and Senator Edgar T. Brackett, of Saratoga.

Report of Committee of Arrangements—George F. Comstock, Chairman, Saratoga.

Address of the President of the American Medical Association—Dr. John A. Wyeth, New York.

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Abstract: International Medical Congress. A new era in the history of the American Medical Association. Uniform standard for all States. The sections. Branch organizations. Permanent places of meeting. The Committee on Medical Legislation. The United States Health Service. Army Medical Department. Vivisection. Smallpox. Medical profession not what it should be. Necessity of better system of education, and of more thorough organization. Code of ethics.

TUESDAY EVENING, 7:30 P.M.

Oration in surgery, entitled: Suture of Heart Wounds—Harry M. Sherman, M.D., San Francisco.

Abstract: The recorded sutures of the heart. Review of these cases. Results of these cases. Slow advance in heart surgery. Experimental results. A method to hold the heat during suture. Diastolic suture unnecessary. Causes of death. Success of the closure of heart wounds. Interference of the pleura. Sepsis and drainage. Other points to consider. Conclusion. Memorandum of experiments. Closing remarks.

WEDNESDAY EVENING, 7:30 P.M.

Oration in medicine, entitled: The Relation of Medical Science to Commerce—Frank Billings, M.D., Chicago.

Abstract: The broader application of medical sciences. Bacteriology. Parasites. Transmission of infection. Protective inoculation. Serum therapy. Influence of bacteriology upon practical medicine and surgery. Prevention of infection. Smallpox. The plague. Yellow fever. Malaria. Typhoid fever. Value of medical science not recognized. Medical science should receive financial support.

THURSDAY EVENING, 7:30 P.M.

Oration in State Medicine, entitled: State Medicine, Past, Present and Future—J. M. Emmert, Atlantic, Iowa.

Abstract: The sanitary code of Moses. The Justinian law. Features of the Mosaic law. Pestilence and superstition. The first quarantine. Extension of quarantine. Quarantine in the United States. International sanitary conference. Epidemics in the United States. Growth of the hospital. Medico-legal beginnings. Growth of pharmacology. The first pure food laws. Early rules governing autopsies. Founders of medcal jurisprudence. Active growth of legal medicine. Knowledge of anatomy by the ancients. Early dissections. Human vivisection. Laws of dissection. Opposition to vivisection. Vivisection develops sympathy. Our debts to vivisection. Vaccination. Tuberculosis. Tuberculosis mortality. *Bovine tuberculosis transmissible.* What statistics prove. Illustrative

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cases. Importation of diseased animals. Governmental control. Tuberculosis sanatoria. National board of health and examiners. Regulation of marriage. Prophylaxis against anarchy. Public baths. Restriction of venereal diseases. Detention of syphilitics. Abolish the coroner. Conclusions.

CLOSING MEETING, FRIDAY, 12:00 M.

Report of House of Delegates.

Report of officers elected for the ensuing year.

Installation of officers.

Closing exercises.

HOUSE OF DELEGATES.

The House of Delegates, provided for by the reorganization plan adopted at St. Paul last year — Art. 4, sec. 1–2, New Constitution—was duly assembled and called to order by the President, John A. Wyeth, M.D., New York, N. Y.

Under the regular order of business the President's address was read, after which a Business Committee was appointed, to which the President's address was referred: The duties of the Business Committee were to receive and consider all reports and resolutions and other papers which should be referred to it by the House, and act as an Advisory Committee. They should be continuously in session, and could report from time to time during each session of the House, and before the closing of each session of the House the President should ask the Business Committee if there was anything to report. This committee was composed of McCormack, of Kentucky, chairman; Foshay, of Ohio, Ferguson, of New York, Moyer, of Illinois, Murray, of Montana.

The reports of Treasurer, Secretary and Board of Trustees were next read and referred to the Business Committee. The most interesting item contained in either of these reports was the fact that the Association has a home of its own, paid for, and extra property sufficient to bring in more cash in rents per annum than was the former expense on this account. Much of this, we are glad to say, is due to the persevering endeavors of our greatly esteemed fellow-citizen, Dr. T. J. Happel, of Trenton, President of the Board of Trustees.

The reports of the committees of the regular order were read and referred to the Business Committee. Among the above reports was the one on the Senn medal; here there

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were majority and minority reports, the former recommending no award, the latter recommending that award be made to "*Fiat Lux*"; the majority report was adopted.

The Business Committee here reported, recommending that the membership of the House be divided into nine grand divisions; the members of each division to elect a member to form a part of the Committee on Nominations, namely:

1. New England States.
2. District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Porto Rico.
3. New York, New Jersey, Pennsylvania, Delaware, Maryland.
4. Alabama, Mississippi, Louisiana, Tennessee, Arkansas.
5. Kentucky, Missouri, Ohio, West Virginia, Indiana.
6. Michigan, Illinois, Wisconsin, Minnesota, Iowa.
7. New Mexico, Indian Territory, California, Kansas, Arizona, Nevada.
8. Oregon, Utah, Colorado, Nebraska, Oklahoma Territory, Texas.
9. Hawaii, Washington, Idaho, Montana, North Dakota, South Dakota, Wyoming, Alaska.

There were a number of other standing committees provided for, the exact titles and order of which I do not now remember.

The banquets were enjoyable affairs, though not so elaborate nor so well attended as is the usual custom.

On Wednesday evening a complimentary reception and ball at the United States Hotel was tendered to the members and guests of the American Medical Association by Messrs. Gage and Perry, proprietors of the hotel.

On Thursday evening a very enjoyable reception was tendered to the President, Dr. John A. Wyeth, by the Medical Association of the State of New York.

The writer felt extremely gratified on this occasion in seeing his friend and compatriot in the Section on Practice sitting as its chairman. Reference is made to Dr. Frank A. Jones, of Memphis. Again, that our "Three States" was accorded the Secretaryship of the Section on Practice in the person of Dr. J. B. McElroy, of Stovall, Miss. He is also very proud of his

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House of Delegates badge; this he expects to hand down to his progeny forever as a mark of one of the epochs in medical history.

This narrative is already growing too long; I will therefore append the roster of officers elected for the ensuing year and close:

President, Dr. Frank Billings, of Illinois; 1st Vice-President, Dr. J. A. Witherspoon, of Tennessee; 2nd Vice-President, Dr. G. F. Comstock, of Saratoga Springs; 3rd Vice-President, Dr. C. R. Holmes, of Ohio; 4th Vice-President, Dr. James H. Dunn, of Minnesota; Treasurer, Dr. Henry P. Newman, of Illinois; Secretary, Dr. George H. Simmons, of Illinois. Dr. J. M. Anders, of Philadelphia, was invited to give the oration in Medicine; Dr. A. F. Jonas, of Omaha, the oration in Surgery; and Dr. Wm. H. Welch, of Baltimore, the oration in State Medicine.

Hot Springs, Arkansas, was recommended as the next place of meeting, but later New Orleans was substituted.

This was followed by the formal installation of the newly elected officers, after which, the closing exercises being completed, the association adjourned to meet in New Orleans in 1903.

WM. BRITT BURNS, M.D.

PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

The Symptoms of Chronic Non-Alcoholic Gastritis.

G. R. Lockwood (*Med. Record*, vol. 61, no. 22) says:

1. In uncomplicated chronic gastritis not of alcoholic origin, if the muscular power of the stomach be good, the only symptom apt to be referred to the stomach is acidity. This occurs in about half of the hyperacid cases, but may be observed in the cases of complete achylia. Cases with normal acidity, and the vast majority of cases of anacidity, give no gastric symptoms.

2. The hyperacidity cases may give a course resembling

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that of a neurosis in that the symptoms are intermittent and are easily influenced by nervous conditions. It would seem, however, that a long-continued gastric neurosis was exceedingly rare, and that the great majority of such neuroses were rarely the neurotic outbreak of an organic lesion.

3. In gastritis, contrary to the accepted teachings, the following negative facts are to be noted: (*a*) The appetite is good. The few exceptions are observed in advanced atony, where the quantity of food is not well borne, and in cases of neurasthenia. In neither case, however, is the gastritis itself the cause of the anorexia. (*b*) Pain occurs in two ways: (1) From acidity, differing in no way from similar pain in cases of nervous hyperacidity; (2) from gas. This latter pain differs in no way from that observed in cases of simple atony without gastritis, so that pain does not seem to be a symptom of gastritis proper. (*c*) Nausea does not occur in relation to meals. Patients with atony, are those who are neurasthenic, may complain of nausea, but the nausea is not related to meals, and does not interfere with a normal appetite. It usually occurs when the patient is tired or nervous. (*d*) Vomiting does not occur in the non-alcoholic cases. (*e*) Unless there be diarrhea the nutrition is good, and, as a rule, the patients are not anemic. Exceptions may be made in cases of atony, but in these cases the anæmia may well be the primary condition.

4. If the muscular power be poor, gas is present as a prominent symptom. This is more apt to occur in hyperacid cases, and is probably due to swallowed air. As this same symptom is observed in a similar number of cases of simple atony, the symptom is not directly due to the gastritis.

5. Gastritis may give rise to severe and long-continued diarrhea and emaciation, which may be mistaken for colitis, or malignant disease of the colon. The diagnosis, however, should present no difficulty if a careful examination be made. These cases are more common than is usually supposed, and occur both in the hyperacid, and in the anacid cases. Between the two a diagnosis is possible only by gastric analysis.

6. Biliousness and its allied symptom-complexes are rarely, if ever, due to a primary functional disturbance of the liver, but are almost regularly due to an intestinal toxemia, trace-

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able to some derangement of gastric chemistry, whereby improperly prepared chyme enters the intestine.

7. Anemia and constipation are the chief and only symptoms in a great many cases of even well-marked gastritis, and their continuance without apparent cause should justify an analysis of the gastric contents. .

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

Treatment of General Peritonitis.

Doyen, of Paris, at a recent meeting of the German Surgical Congress (*Med. Press & Cir.*, vol. 73, no. 3290), said:

The results of operation in infectious peritonitis had been very different, for the reason that cases had been included in statistics that could not be compared with each other. Thus many surgeons had thought they had cured a general peritonitis by laparotomy when the case was only one of circumscribed peritonitis (suppuration in the pelvis, the iliac fossa, subhepatic or subphrenic regions). A careful bacteriological examination of the fluid in the abdomen should be made, so that the favorable cases with sterile sero-purulent fluid might be distinguished from those infected with staphylococci, streptococci, and bact. coli. Regarding operative technique and its results he would observe:

1. The earliest possible diagnosis regarding the local condition, the pulse and the general symptoms.

2. The incision should go direct to the collection of pus. In subumbilical peritonitis the incision should be parallel to the right Poupart's ligament so that the appendix might be at once sought for.

3. For the protection of the peritoneum compresses should be at once introduced above and to the mid line. The appendix if necessary was to be removed, and the pelvis mopped out with compresses. Then toilette of the whole inflamed neighborhood with dry sterile compresses without any flushing.

4. The toilette finished, the incision wound was to be closed partially and drained with gauze and a glass drainage tube.

5. In case of extensive peritoneal effusion opening in the middle line; in case of collection near the spleen, on the left side.

6. He had never seen recovery in a case of acute general peritonitis when the exudation was septic and when it reached from the pelvis to the subphrenic region. Extensive washing

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out of the abdominal cavity was dangerous, its only effect could be to make matters worse by dissemination of the infection.

7. In intestinal paralysis an anus preternaturalis was made in the first section of the jejunum. This was closed in from ten to twelve days by a lateral enteroanastomosis.

NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary; Laryngologist to Presbyterian Hospital.

Surgery of the Larynx.

Gluck, of Berlin, at the recent meeting of the German Surgical Congress (*Med. Press & Cir.*, vol. 73, no. 3290) discussed the surgery of the larynx with demonstration of one hundred operations on the larynx performed by himself. One case was operated on four and a half years ago by B. Fraenkel for cancer of the glottis, and the plica aryepiglottica resected *per vias naturales.* Three years later a carcinoma of the glands of the neck was removed by the speaker. The man was healthy and articulation intact. Several cases of diffuse papillomata of the larynx were treated radically after fissure of the larynx with permanent recovery and good speech. One case of exenteration of the larynx for tuberculosis. Total laryngoplastia by the speaker's method, with formation of artificial laryngoschism after excision of the epiglottis along with the plicæ aryepiglotticæ. The patient did not wear a canula. Still sound after four and a half years, and speech perfect. Two children who had complete aphonia in consequence of development of cicatricial stenosis of the trachea. After tracheotomy low down transverse resection of the trachea in a healthy part was performed, and the two ends united. Speech was now clear. One patient, on account of laryngo-pharyngeal carcinoma, had an operation performed which embraced removal of the larynx, pharynx, the jugular vein and carotid artery of the left side, along with the glands affected. Recovery had lasted three and a half years, and he had a clear pharyngeal voice.

In extirpation of malignant secondary tumors of the neck he proceeded as follows: Central freeing of the large tissues of the neck, severance after double ligature. From the mastoid region he proceeds to the jugular foramen and the canal of the carotid; ligature and tamponade of the vessels; and then extirpation of the tumors with vessels and nerves, making the section through healthy tissues.

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Memphis Medical Monthly

Memphis Medical Monthly, established as the *Mississippi Valley Medical Monthly*, 1880
Memphis Lancet, established 1898.

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THE RECENT MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE Saratoga meeting of the American Medical Association which was held last month, while not as well attended as the two meetings immediately preceding this, was productive of some very excellent contributions to medical literature, and was further notable on account of being the first meeting under the new plan of organization of the Association, which provided for a House of Delegates to conduct the official business of the organization. This body got together promptly and transacted a great deal of routine business in a most expeditious manner.

The program on the occasion of this meeting was without doubt one of the best that has ever been rendered by the Association, and the various section secretaries are deserving of considerable commendation for the discriminating taste with which they each secured contributions to the work of his section. This matter of filling the program with deserving papers, and excluding the merely library and padded product, is one that presents itself to every large medical association, and we believe that the American Medical Association is as successful in this undertaking as any organization of which we have cognizance. A British contemporary, the *Medical Press and Circular*, in a

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recent editorial article suggested that the American Medical Association would do well to have a committee to pass upon papers that are to be read before the meetings of the Association, but there seems to be a general standard of excellence maintained by the contributions to the American Medical Association program that would render such a committee unnecessary.

We are more than pleased that the next meeting of the Association is to be held in New Orleans. In this truly Southern city the typical hospitality of the people of the South will be lavished upon the visiting members of the Association, and those from the North who have never before visited this old Creole city will enjoy an opportunity to spend a few days in a place that presents characteristics different from any other city of the United States, and which is as interesting as it is attractive.

GENERAL LEONARD WOOD.

THE extraordinary accomplishments in Cuba of a previously practically unknown physician, Dr. Leonard Wood, who first came into prominence at the opening of the Spanish-American war, on account of his appointment from the medical corps of the army to the colonelcy of the Rough Riders, which was made by President McKinley, and who later was rapidly promoted, until finally he was appointed governor-general of Cuba at the close of the war, are such as to occasion a feeling of pride in the breasts of the entire medical profession over the success of one of their members.

It is undoubtedly the medical training of Dr. Wood to which is to be attributed the promptness and efficiency with which he at once put into execution a most excellent plan for the thorough cleansing of the large cities of Cuba—notably Havana. The very thorough work of the medical men engaged in the task of placing the city of Havana in a hygienic condition has been such as to completely eradicate the formerly constantly prevailing scourge, yellow fever, and to give this city a position in the health records of large cities that is enviable on account of its excellent showing.

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Yet despite the fact that General Wood's administration—a delicate task to say the least of it—was of great benefit to Cuba, and thus indirectly to the United States, and apparently passed with nothing to mar the pleasant relations existing between the Cubans and Americans, General Wood's return home after the completion of his task has been followed by the customary imputations of misconduct of office. He is now charged with the appropriation of government funds for political purposes.

It is a most unfortunate state of affairs that it is a rare thing for any administrative official in the service of the United States to fail to have flung at him during or at the close of his term of office a mass of charges, which usually are brought forward from political motives. No doubt General Wood's record will require little investigation to show that it is thoroughly clean, but we had hoped that the political press of this country would have at least refrained from untimely criticisms of the administration of this doctor general, who certainly has been one of the most capable officials that the United States has ever invested with administrative powers.

KING EDWARD'S ILLNESS.

JUST on the eve of his coronation, the world is startled to learn that King Edward VII, of England, has suddenly been required to submit to an operation for a condition which placed him in imminent danger of losing his life. The condition from which the King suffered was described as perityphlitis, a term that it seemed had long ago passed into disuse. Modern surgeons have begun to look upon manifestations in this region as usually being from the appendix, but it would seem that in this case the title is justified, as the appendix is not reported to be involved. The abscess at the head of the cecum was emptied by the King's surgeons, Sir Frederick Treves being the operator, and at this writing the royal patient seems to be on the road to recovery. We trust that such is surely the case, for King Edward is but commencing what promises to be a most beneficent reign.

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EDITOR'S NOTES.

THE AMERICAN ROENTGEN RAY ASSOCIATION will hold its next meeting in Chicago, December 10–11, 1902.

DR. LOUIS P. FURBISH, formerly of Memphis, but now of Laconia, Arkansas, was married to Miss Mary Ellen Goodman, of Memphis, Tuesday, June 3, 1902.

A WORLD'S CONGRESS OF TUBERCULOSIS, to be held in St. Louis during the World's Fair in 1904, is now proposed. Dr. George Brown, of Atlanta, Georgia, is the instigator of this movement, which should be of marked benefit to the profession and humanity in general.

THE HUMBOLDT MEDICAL SOCIETY has issued a circular letter of invitation to physicians in the Humboldt territory to join their organization. The next meeting will be held the first Tuesday night in July, and it is expected that a large number of physicians will be in attendance.

MESSRS. W. B. SAUNDERS & Co. announce to the profession that they have secured more commodious quarters for the transaction of their London business, and their address will henceforth be 9 Henrietta st., Covent Garden. Their former accommodations have become entirely inadequate to meet the pressing needs of their rapidly increasing business.

THE ARKANSAS MEDICAL SOCIETY, at its recent annual meeting, elected the following officers:

C. R. Shinault, M.D., Helena, President; W. M. Yates, M.D., Fayetteville, 1st Vice-President; L. Kirby, M.D., Harrison, 2nd Vice-President; W. A. Brown, M.D., Monticello, 3rd Vice-President; J. P. Runyan, M.D., Little Rock, Secretary; R. C. Thompson, M.D., Pine Bluff, Treasurer.

DR. MAX HENNING, son of Dr. B. G. Henning, of this city, graduated at the College of Physicians and Surgeons, New York, last month, and will return to Memphis to practice in association with his father. Dr. Henning deserves the congratulation of his confrères in the profession and of his many

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friends, since he made his degree at this foremost American medical college as an additional honor, having first graduated from the Memphis Hospital Medical College. We predict for Dr. Henning a bright future in his professional career.

The West Tennessee Medical and Surgical Association held its 11th annual meeting at Jackson, Tennessee, on May 22–23. The attendance was good, about fifty-four registering as present. The papers and discussions were of a high order and most interesting. A banquet was given to the visiting members by the profession of Jackson, and was thoroughly enjoyed by all present. This Society is one of the most interesting of the various district medical societies, and is constantly increasing in attendance and improving in the character of its work. The officers elected to serve during the ensuing year are:

J. S. Rawlins, M.D., President, Dancyville; Frank D. Smythe, M.D., Vice-President, Memphis; J. A. Blackmon, M.D., 2nd Vice-President, Medina; I. A. McSwain, M.D., Secretary and Treasurer, Paris.

The Birmingham Medical College is keeping well up with the vanguard of progress among Southern medical colleges. The faculty has just announced that plans have been adopted and all arrangements perfected for the erection, during the present summer, of a large and commodious new college building, which will be open for the reception of students at the beginning of the next regular session. This new building will be a modern four-story brick, and will be thoroughly equipped and complete in all of its appointments. Besides this the College will be in close relationship with the Hillman Hospital, which will be another feature added to the already excellent clinical advantages of this institution. There have been numerous additions made to the teaching corps, and the new building will provide large and well equipped laboratories. Judging by the progress that has been made by this college in the past, and having in mind the preparations that the faculty is making for the future, prospects are exceedingly bright for the enhanced value as a teaching institution of the Birmingham Medical College.

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BOOK REVIEWS.

PROGRESSIVE MEDICINE. Vol. II, June, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 440 pages, 28 illustrations. Per volume, $2.50, by express prepaid to any address. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., publishers, Philadelphia and New York.

Progressive Medicine continues to sustain its reputation as a most excellent record of progress in medicine and surgery. Each issue is looked forward to as presenting a valuable synoptical review of the recent valuable contributions to the field which it considers.

In the recent issue we have the surgery of the abdomen, including hernia, considered by Dr. William B. Coley. Dr. John G. Clark covers the field of gynecology with characteristic thoroughness. Dr. Alfred Stengel presents an able review of the subject of the diseases of the blood and ductless glands, hemorrhagic and metabolic diseases. Dr. Edward Jackson contributes a valuable article on ophthalmology. Illustrations are freely employed.

DISEASES OF THE NOSE, PHARYNX AND EAR. By Henry Gradle, M.D., Professor of Ophthalmology and Otology, Northwestern University Medical School, Chicago. Handsome octavo of 547 pages, profusely illustrated, including two full-page plates in colors. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $3.50 net.

It is an uncommon but yet not impractical combination to consider in one volume the subject of the diseases of the nose, pharynx and ear. The direct relationship existing between these several structures is such as to render the connection between their various disorders more or less intimate.

The first thing that commends this work to us is the fact that the author does not preface his book with the statement that it was "written for the general practitioner." This statement so commonly made by textbook writers in special fields nowadays, certainly should condemn, almost without question, a book to those who have most occasion to use it. This is a bait that is thrown out in order to increase the sale of a book, for if the general practitioner were able to handle the conditions discussed in these works, there would not now be the wide field devoted to specialism, nor would there be such evidence of medical progress as has been brought about by workers in special fields.

As to the work proper, it will, perhaps, be found that the chief feature to commend it is the rather full consideration of the subject of topographical anatomy of the regions studied. This is unusually full for a work of this size.

The author bears out the almost generally accepted opinion in his statement that "the simplest and most satisfactory correction of a deviated septum is the operation devised by M. J. Asch." This operation is amply described. For

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extreme cases of septum curvature he recommends the more radical operation originated by Krieg.

In the treatment of acute follicular tonsillitis the author is more prolix in the remedies suggested than appears to us necessary. We believe that if he will try the treatment suggested by the reviewer (the editor) on various occasions he will get more satisfactory results to his patients and to himself. We are glad to note, however, that he is an advocate of cauterization with the galvanic burner in order to obliterate the tonsil crypts.

The chapter on adenoid vegetations is one of the best in the book. The author is very emphatic in his statement that "enlargement of the pharyngeal tonsil is the consequence of acute coayza in childhood." We should be glad to have more evidence of this fact presented than he gives us. We are quite pleased to note that he is an advocate of operation without narcosis, but cannot agree with him in the statement that "the easiest, quickest and most thorough mode of operation is by means of the curved guillotine devised by Schütz." We have never yet found any instrument superior to the Gottstein knife.

The section of the work devoted to the diseases of the ear is naturally of much less volume than that allotted to the other subjects considered by the author. This presents no features especially demanding comment at our hands. The chapter on mastoiditis is very good.

The work is very well illustrated throughout, and the typographical execution is excellent.

PRACTICAL DIETETICS. With Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City; Visiting Physician to the Presbyterian and Bellevue Hospitals. Second Edition, enlarged and thoroughly revised. Price, cloth, $5.00. By D. Appleton & Co., New York.

It can truthfully be stated that only in recent years has adequate attention begun to be paid to the subject of the relationship of dietary in health as well as disease. The influence of diet in pathological conditions is such as frequently to make it of even more importance than medication.

Dr. Thompson is the first to have given the subject so exhaustive consideration as he presents in this work. In this magnificent volume of over 800 pages he has contributed a work that is both comprehensive and exhaustive. Beginning with foods and food preparations, in which he treats of every known variety of meat, fish, fruit, fowl and vegetable used by mankind, he then takes up stimulants, beverages and condiments. In Part III we are brought in touch with the methods of cooking, etc. Parts IV and V have to do with foods required for special conditions and food digestion. Part VI gives us the general relation of food in special diseases, and diseases which are caused by dietary errors. Part VII acquaints us with the administration of food for the sick, while Part VIII enters thoroughly into the question of diet in disease. The book is concluded with a part devoted to rations and dietaries, and an appendix containing receipts of various kinds.

The value of this work can well be appreciated in this age of evolution in food preparation, and every practitioner should have an intimate acquaintance with the subject which it discusses.

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WHARTON'S MINOR SURGERY AND BANDAGING. New (fifth) edition, thoroughly revised. A Manual of Minor Surgery and Bandaging. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College, Surgeon to the Presbyterian Hospital, Philadelphia, etc. In one 12mo. volume of 612 pages, with 509 illustrations, many of which are photographic. Cloth, $3.00 net. Just ready. Lea Brothers & Co., publishers, Philadelphia and New York.

That Dr. Wharton's work has found a wide field of favor is shown by its almost universal popularity. The book is now in its fifth edition.

A work of this kind meets with approval largely on account of its succinct and clear manner of handling subjects in the domain of surgery that are so pertinently connected with the work of the general practitioner. The author considers not merely the subject of the application of the various bandages and dressings incident to the accidents of everyday life, but also describes in detail the various minor surgical procedures employed in present day surgery, and the work further has sections on tracheotomy, intubation, ligation of arteries, amputations, operative procedures on the cadaver, and surgical bacteriology.

American Edition of Nothnagel's Encyclopedia.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND GERMAN MEASLES. Diphtheria: By Wm. P. Northrup, M.D., of New York. Measles, Scarlet Fever, and German Measles: By Professor Dr. Th. von Jurgensen, Professor of Medicine in the University of Tubingen. Edited, with additions, by William P. Northrup, M.D., Professor of Pediatrics in the University and Bellevue Medical College, New York. Handsome octavo, 672 pages, illustrated, including 24 full-page plates, three of them in colors. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $5.00 net; half morocco, $6.00 net.

The magnificence of this splendid work is further exemplified in this most recent volume of the series. The American publishers deserve a tribute of gratitude from the medical profession of this country for having placed in an available form for those not conversant with the German language a system of practical medicine that is of such transcendent worth.

In this volume are considered those acute and infectious diseases of childhood which so commonly are encountered by the general practitioner. Every article contained herein is a model of completeness, and the portion of the work devoted to the subject of diphtheria is the best consideration of this subject that we have ever seen. But the other articles here presented are none the less well prepared and comprehensive.

The illustrations contained in this volume are very excellent, there being, besides a large number of text cuts, twenty-four full-page plates, three of which are in colors.

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ORIGINAL ARTICLES.

PURE FOOD AND PURE FOOD LAWS.*

BY FELIX PAQUIN, PH.G.
MEMPHIS.
Chemist to the Board of Health.

FOOD is defined as any substance or material which, when taken into the body, serves to either form tissue or yield energy, or both.

The foodstuffs being used then to form the material of the body, repair the wastes and yield energy in the form of heat—muscular and mental power—it is of the greatest importance that their chemical composition should be approximately known by the housewife, so that in the management of her household the food purchased and consumed will be not only economical in dollars and cents, but will meet all the requirements of the various members of the family.

By the use of the splendid tables of analyses (covering nearly all kinds of foodstuffs) which are issued by the Bureau of Chemistry of the Department of Agriculture and the chemists of the various experiment stations, this knowledge is very easy to obtain by all who care to familiarize themselves with the subject, or use the tables for reference. Being thus equipped with a knowledge of the composition of various foodstuffs, as to their percentage of protein, fat and carbo-

* Read before Memphis and Shelby County Medical Society, May 20, 1902.

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hydrate, and their caloric value, the problem of household economics becomes very simple, provided a pure food is obtainable.

Had the great progress made in the production and methods of manufacture of foodstuffs resulted in the placing on the market of perfectly pure products, as the consumer is entitled to and should demand, the chemists and sanitarians of the world would not to-day be clamoring for the enactment of stringent laws against the manufacture of diseased, adulterated, and misbranded foodstuffs. In all branches of food manufacture, however, we find instead of an effort to raise the standard of food value, a tendency to lower them by mixing with inferior material and chemical preservatives.

The preservation of foodstuffs has been practiced for ages, and is a legitimate industry, provided that the methods employed do not render the food injurious to the health of man, when used for the purposes of nourishing the human body. The methods which have been mostly in vogue are as follows:

1. Drying, as practiced by the American Indian in the preparation of fish, meats, roots and fruits.

2. Chemical agents, as salting and smoking.

3. Bacteriological methods; that is, cooking and exclusion of air, as the canning and preserving of meats, vegetables, and fruits.

4. Cold storage or refrigeration, as practiced by the large packing establishments for the greater portion of their output.

These methods, while they in some instances lessen the nutritive value of the foodstuffs, do not render them injurious to the health. Cold storage and canning, for instance, have been the means of saving enormous quantities of food, and have enabled us to obtain meats, vegetables and fruits in a condition which approaches very nearly that of their natural state, and at a price which places them within the reach of all. Just how low they will be within our means is for the trusts to determine.

For many years, however, it has been the practice of a number of unscrupulous manufacturers, with whom cheapness is a first consideration, caring nothing for the health of the consumers, to add chemicals, preservatives and antiseptics to

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sausage, canned meats, vegetables and fruits; also to hams and cold storage (supposed fresh) meats, which are by no means harmless in their immediate or ultimate effect upon the human system when used for any considerable time. Others are positively poisonous, if employed in sufficient quantities.

The following chemicals have been found in various foods by American and European chemists: Boric acid and borates; salicylic acid and salicylates; benzoic acid and benzoates; fluorides, fluoborates and fluosalicylates; phenols and phenol derivatives; sulphides and sulphites; formaldehyd; asaprol. Compounds and nostrums containing one or more of the above together with coloring agents—aniline dyes and carbonates.

It is frequently stated that these preservatives are not injurious to the health of a person consuming food so preserved, because the quantity of chemical taken would be very small. When such statements are made the author invariably has in mind one kind of preservative, used in the preservation of one particular food, forgetting that at one meal a person may eat several articles of (so-called) food thus preserved, and some of them containing several kinds of preservatives.

Wine, beer and milk frequently contain boric acid, salicylic acid, formalin, aniline dyes. Catsups nearly always contain salicylic acid and artificial coloring, sometimes benzoic acid. Jellies and jams, in most instances contain benzoic acid, salicylic acid, aniline dye, and in the case of jellies a mineral acid to imitate the acidity of the fruit, which is in most instances entirely left out in its manufacture. Meats, especially sausages of all kinds, are preserved with sulphites, boric acid, salicylic and aniline dyes. It is proper to mention that most baking powder bread, rolls and biscuits contain a certain quantity of hydrate of alum or phosphate of alum. The cheaper alum baking powders are almost exclusively employed in their manufacture.

Are these preservatives injurious to health when taken with preserved foods? This question is best answered by referring to the literature on the subject.

In Butler's Materia Medica and Therapeutics it is stated that borax and boric acid checks the secretion of saliva; hence we have a smaller quantity of ptyalin, hence the starch

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will not be acted upon, its conversion into sugar will not take place till it reaches the intestine, the process beginning where it should be completed. "It is incompatible with acids," hence it will retard and may prevent the action of the gastric juices on the food, thus causing irritation of the stomach, and later chronic gastritis. "Boric acid and borax occasion frequent desire to micturate, nausea, vomiting, and other gastric disturbances, small, weak pulse, derangement of the nervous system, hiccough, and various cutaneous eruptions."

In Shoemaker's Materia Medica and Therapeutics we find the following statement: "The presence of boric acid in food retards the action of saliva on starch, as shown by experiments made by Fox and Webber, of Columbus, Ohio, and confirmed by Chittenden." Several cases of poisoning, some of them fatal, have been reported due to the local application of boric acid.

In Atwater's Metabolism Experiments, Forster, of Amsterdam University, after determining the value of boric acid as a food preservative, concluded that boric acid had no influence on the metabolism of nitrogen; but diminished the absorption of nutriment in the intestine. Its use as a food preservative is not recommended.

In Wood's Materia and Therapeutics, it is stated that daily doses of three grains of boric acid caused marked gastro-intestinal irritation. Fere has noticed that in the long continued use of borax there results marked irritation of the kidneys with albuminuria, ending in one or two cases with uremia or death. Its use increases the elimination of urea. It is a diuretic, and Jacob Plant has shown that it may produce parenchymatous nephritis.

The borates are the most commonly employed of all preservatives; they are found in nearly every manufactured foodstuff, and the manufacturers no longer deny that they use them, but claim that it is just as harmless as common salt.

Salicylates. Miller found that 1 per cent. solution of salicylic acid was sufficient to check the action of ptyalin on starch; and the digestive action of pepsin was seriously retarded by a two-tenths of 1 per cent. solution. It is an accumulative poison.

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In 1885 a commission appointed by the Academy of Medicine of Paris reported that it is proved that the prolonged use of even very small amounts of salicylic acid is dangerous. That in susceptible individuals, especially aged persons, it is apt to cause disordor of digestion and disease of the kidneys.

Sulphites. According to Wernitz, sulphites in solutions of 1 in 1317, to 1 in 8600, prevent the action of pepsin, ptyalin, invertin, diastase, etc.; they are not intended for internal use, although they are sometimes found in canned vegetables and meats. Later reports state that their use in meats is rapidly increasing. They are also used as a bleaching agent for white wines and dried fruits.

Formaldehyd. The action of formaldehyd upon food is as follows: A few drops added to a solution of gelatin will congeal and transform it into a transparent mass, which is insoluble in boiling water. Added to egg albumin and albuminoids it forms a glassy substance, which is insoluble in water and the greater number of our reagents. A few drops added to blood serum will prevent its coagulation upon the application of heat.

Trillat, a manufacturer of formaldehyd, thought that it could be used as a meat preservative, but after making a number of experiments found that it preserved too well. It penetrates within the tissue of the meat, forming a compound with its albuminoid, which is indigestible, and, therefore, cannot be assimilated. When it comes in contact with living tissue, it will hinder the growth of the cells. Trillat states that it should not be used for the preservation of food.

It is not necessary to burden this paper with more evidence in regard to the use of preservatives in food—all authorities are in accord in their condemnation. Another reason why preservatives should not be tolerated, even though they were perfectly harmless, is that their use makes it possible for the manufacturers to place on the market foods which are in a state of decomposition at the time of their manufacture. Meats are kept until they are no longer salable as steaks or roasts, and then made into sausage; when it reaches the sausage stage there is no longer any loss, they are embalmed for all time.

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In my opinion, the use of food preservatives, especially in milk intended for babies, should be made a criminal offense, punishable by a heavy fine and imprisonment.

The murderer is a merciful being when compared with him who, for the sake of a few dollars, will jeopardize the health, and, therefore, the future happiness of an innocent baby. The former will rob one of his life, and perchance, put him out of misery; while the latter will leave his victim a legacy in the form of a weakened, if not a wrecked, constitution which will predispose him to all forms of disease.

To what extent the practice of preserving food with injurious chemicals is resorted to by manufacturers will be shown by the following reports of analyses:

From the report of the Connecticut Agricultural Experiment Station, 1898:

	Adulterated.	Totals.
Jellies	43	70
Preserves, jams and marmalades	45	51
Coffee	11	45
Ginger	24	91
Malt liquors	12	47
Sausage	14	19
Honey	10	37
Cream	4	23
Chili sauce	1	1
Ground spices	28	170
Vinegar	12	32
Molasses	34	203
Butter	7	17
	243	806

That is, 30 per cent. of all samples examined were found adulterated.

Beer: Not preserved, 29; preserved with salicylic acid, 11; total number, 40 samples.

Ale: Not preserved, 6; preserved with salicylic acid, 1; total, 7 samples.

Sausage: Preserved with borax, 41; not preserved, 20; total, 61 samples.

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Kentucky Agricultural Experiment Station:

	Not Adulterated.	Adulterated.	Total.
Baking powder.....	11	45	56
Butter.....	118	29	147
Canned goods.....	6	0	6
Catsup and pickles.....	12	45	57
Lard	29	11	40
Jellies and preserves..	5	18	23
Mince meat.....	0	7	7

The adulterants were salicylic acid, benzoic acid, coal tar dye, borates, sulphites, etc.

In my own examinations of meats made in October and November, 1900, though late in the season, I found that out of 82 samples examined, 38 contained preservatives, and 44 samples were not preserved. Very few samples of sausage were found not preserved. The preservative found in most instances was borax; but salicylic acid and aniline dye were also found in some of the sausage, and in some instances all three were present. I have examined samples of cheap wines so saturated with salicylates that an undissolved residue could be collected on the filter.

Milk and cream were found to contain such large quantities of borates and formaldehyd that samples were kept on the laboratory shelves for weeks without showing the slightest evidence of lactic acid fermentation. Of course, the milkman had been advised by the so-called manufacturing chemist that a tablespoonful of these wonderful preservatives would prevent the milk from souring for forty-eight hours, but four tablespoonfuls would preserve it for a month, and, naturally, the milkman took no chances, except that of paying a fine, which he did. In addition to this, I also found milk with as much as 50 per cent. of water added.

Many will say: "Oh, well, no one will be injured by pure water." Let us see. You have a patient who is unable to nourish her baby. You tell the nurse to prepare some milk. You will perhaps use a formula like this: Sugar of milk, 35 grains; lime water, 30 cc; boiled water, 500 cc; milk, 500 cc, distributed into feeding bottles and pasteurized for 30 minutes at 68.5° (155°F.)

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When you say milk, you have in mind a normal milk of average composition, which is about, water, 87.50; total solids, 12.50; butter fat, 3.50; casein and albumin, 3.75; lactose, 4.50; mineral water, 0.75.

Your aim is to decrease the fat, casein, albumin and mineral matter to one-half, and increase the lactose; but instead of that, by reason of the milk being already diluted to one-half, the fat, casein, albumin and mineral matter are decreased to one-quarter of the normal, and lactose remains about the same. The result is a one-sided diet, containing only about half enough protein and fat, and giving only 30.7 per cent. caloric instead of 47 per cent. intended. The child will not get the nourishment it needs. It will remain weak and be susceptible to all forms of disease.

I have used the milk as an illustrative here because physicians are more frequently called upon to advise in this matter of milk diet than in any other. It is the diet of the helpless infant, the sick, and frequently that of the old.

We find that the legislators of most States have made an effort to enact laws regulating the manufacture and sale of foodstuffs, but comparatively few have succeeded in getting the laws enforced; the reason in most instances being the failure to provide money to establish a State chemical laboratory, and to pay the salary of a State chemist, or to pay for the expense of the work under the supervision of the agricultural experiment station. Where this has been done, however, the laws have been enforced, and the supreme courts have sustained the lower courts.

There is a good pure food bill, prepared by the Bureau of Chemistry of the Department of Agriculture, entitled, "Bill for Preventing the Adulteration, Misbranding and Imitation of Foods, Beverages, Candies, Drugs and Condiments in the District of Columbia and the Territories, and for Regulating Inter-State Traffic Therein, and for Other Purposes."

This bill provides for a division of chemistry of the Department of Agriculture, and is intended to prevent the traffic in adulterated or misbranded food and drugs between the several States and Territories. It is an excellent bill and it is hoped that it will pass at this session of Congress. This bill will

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not, of course, prevent manufacturers and dealers from selling adulterated foodstuffs, provided they have been manufactured in one's own State. To cover this point, it is hoped that the legislators of the various States will enact laws in line with the bill now pending before Congress, thus affording our citizens as much protection against adulterated food manufactured in our own State as is given to those who import from us. These laws, however, will always have to be supplemented by municipal pure food ordinances, so that a closer supervision and better protection can be afforded to our home consumers against the use of unwholesome or diseased foodstuffs, and with that end in view an ordinance was compiled which provides for the inspection, chemically, microscopically and otherwise of all food intended for man or animal. It provides for the proper inspection of meats; that is, a postmortem examination on the floor of the slaughterhouse. No man, no matter how competent, can tell what disease may have existed in an animal simply by looking at the carcass. Such a system is not inspection; it is simply tagging, and affords no protection other than preventing the sale of putrid flesh, and from this the average citizen can protect himself. By referring to what I have said in regard to sausage you will see that it does not even afford us that protection. I believe that when we show our citizens that we properly inspect all animals slaughtered here, and prevent the sale of meat from diseased animals, the citizens of Memphis will buy home products in preference to all others.

This, I hope, will lead in time to the building of a union, or better, a municipal abattoir, where all slaughtering will be done under strict sanitary conditions, and the combined efforts of national, State and municipal authorities to secure pure foodstuffs will lead to the adoption by the trade of the method of buying and selling on the basis of chemical analysis, just as is now done by all large traders in feeding stuffs; thus forcing all manufacturers to properly brand their products, and giving the consumers a pure food, or, at least, an opportunity to know what he buys.

This protection is given by most States when cattle feed and fertilizers are in question.

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Improper feeding of man or animal breeds degenerates. Is the food of our people of less importance to us than that of our land or cattle? Some of those who are interested in the traffic of impure adulterated food selfishly say yes. Shall we always let them block our efforts to obtain pure food laws? I believe not.

TREATMENT OF SUMMER DIARRHEA.*

BY C. H. JOHNSTON, M.D.
LEXINGTON, TENN.

I use the term summer diarrhea because it covers the subject better than any other. A classification founded upon the appearance of the stools is impossible, as the appearance often changes from one hour to another. The age of the child, the previous diet, the nature of the infection, the stage of the illness, all influence the character of the passage. A classification based upon the lesion is only possible at the autopsy; at the onset of the illness no lesion exists. Bacteriological examination of the stool is our only means of classification, and our knowledge of the bacteriology of the intestinal contents in summer diarrhea is not very far advanced, and for some time to come will not be of avail to the physicians who are treating the great majority of these cases. If they will believe, however, with bacteriologists and clinical workers in diseases of children whose opinions are worth anything, that in summer diarrhea we have a disease due to virulent organisms, much will be accomplished. In a child ill with this disorder we have a child poisoned. There may be a direct infection through the means of contaminated food, infected feeding apparatus, or by any means whereby bacteria may pass into the gastro-intestinal tract. The extremely acute cases, with excessive vomiting, purging, marked prostration and rapid loss of flesh, so-called cholera infantum, are no doubt due to direct infection; the infection may also take place by indirect or auto-infection—the food is unsuitable or given improperly. Indigestion results and a culture field is prepared. Excessive heat plays a most important part in auto-infection. Through its influence the

* Read before West Tenn. Med. & Surg. Assn. at Jackson, May 22, 1902.

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bodily functions are all depressed; the bile and the digestive juices, the natural disinfectants, are not furnished to the gastro-intestinal tract in the required strength and volume, with the result that the pathogenic organisms, always present in the intestine, are given an opportunity for vigorous growth and development. The undigested milk at the temperature of the body furnishes an ideal culture medium. We have at the commencement of this disorder a poisonous process at work, with the contents of the intestines involved, and not the intestinal structure.

Summer diarrhea is a disease which should be treated upon the appearance of the first symptom; if properly directed treatment can be carried out we can almost always relieve the patient before the bacteria and their products have produced inflammatory and ulcerative lesions, before grave changes have taken place in the liver and kidney organs which are particularly liable to become affected by toxic products in the circulation.

Autopsies made by Holt and Kerley of New York upon children dying with summer diarrhea show lesions which in extent and severity correspond very closely with the duration of the illness. In intensely toxic cases which die within two or three days, very slight changes are found in the intestines. Small local areas of congestion, a slight swelling of the lymph nodes, with here and there desquamation of the epithelium, constitute the changes that have taken place. In prolonged cases, which die after two to four weeks illness, ulceration to a considerable extent is to be found.

If you understand the nature of the disease the treatment is simple. It consists chiefly in elimination and diet. Remove from the digestive tract the bacteria and their products and give nourishment which will not furnish a medium for their growth and development. It is useless to give laxatives and wash out a few bacteria and then feed milk to the hosts that remain. If the case is one of normal type with green loose stools containing undigested milk and mucus, a teaspoonful of castor oil or one grain of calomel in divided doses should be given (¼ gr. hourly). If not seen until two or three days, the stools are frequent—from eight to twelve in twenty-four

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hours—and small doses of calomel should be given—say ⅛ gr. every hour till four doses have been given. Sometimes the stools are infrequent, but two or three in twenty-four hours, and are usually very foul and contain a large amount of mucus, and there is considerable prostration, with low fever. These symptoms require a large dose of castor oil, followed in twelve to eighteen hours by one grain of calomel in divided doses. If vomiting is present neither the castor oil nor the calomel should be given until the vomiting has been controlled by stomach-washing, which consists in the introduction of water into the stomach through a flexible catheter or stomach-tube and then siphoning it out.

The apparatus for stomach-washing is very simple. There is required a soft rubber catheter size 16, one with a large eye is preferred—a glass funnel holding 4 to 6 oz., two feet of rubber tubing, and a few inches of glass tubing to join this to the catheter. The child should be held in a sitting posture, the body protected by a rubber sheet with a pan conveniently near. The catheter should be moistened. While the tongue is depressed with the forefinger of the left hand, the catheter is passed rapidly back into the pharynx and down the esophagus into the stomach. The first part of the introduction should be as rapid as possible, for if the child begins to gag from the pharyngeal irritation the introduction of the tube may be quite difficult; no resistance is ordinarily encountered after the tube reaches the esophagus. About ten inches of the catheter should be passed beyond the child's lips. When it has reached the stomach the funnel should be raised as high as possible to allow the escape of gas almost invariably present, and from two to four ounces of water poured into the funnel from a pitcher. The funnel is then lowered, and the water is siphoned out; this is to be repeated several times until the fluid comes back perfectly clean.

Various solutions have been advised for stomach washing, but I use only boiled water at a temperature of 100° to 110°F., the higher temperature being used when the gastric irritation is very great. Through the tube are easily discharged mucus and small curds; large ones are gradually broken down by repeated washing. Vomiting may be induced by overdistend-

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ing the stomach with water. If there is great thirst, there is often an advantage in leaving one or two ounces in the stomach.

The growth and development of the bacteria may be prevented by withholding the milk diet and giving large doses of subnitrate of bismuth—bismuth subnitrate from 12 to 20 grs., aromatic syrup of rhubarb three minims, water to make 1 dram. The above amount given often in a severe case, but once in two hours will suffice in those less urgent. Opium should be given when the passages are very frequent or when they are large and watery. In the case in which there is considerable fever and prostration, evidence of systemic poisoning, from four to six passages are a benefit, and are to be looked upon as drainage. If the drainage is cut off by the use of astringents and opium, the temperature rises, and the patient becomes rapidly septic and dies, but the doctor has the satisfaction of having controlled the diarrhea.

I wish to say here that the disinfection of the intestines by the use of drugs through the means of drugs coming in contact with the bacteria and destroying them is not possible of accomplishment with any drug known at the present time. Among the long list of drugs which have been used and advocated for this trouble there are but few that are worth mentioning. Salol, resorcin, the naphthol preparations—so-called intestinal antiseptics—furnish no aid in handling these cases, and are very apt to upset the stomach. The new astringents, tannigen and tanalbin, have a very limited field of usefulness. For the fever, packs, baths and sponging are all that is necessary. Strophanthus, strychnin and digitalis may be used as in other diseases where a heart stimulant is necessary.

In cases of direct infection with marked prostration and uncontrollable vomiting a hypodermic of morphin is always of service. For a child one year old 1-100 of a grain may be given, with 1-600 of a grain of atropia, repeated every hour till relieved. If milk is to be discontinued, other nourishment must be substituted, and this can be done regardless of the age of the patient by adding two even tablespoonfuls of barley or wheat flour to one pint of water. This is to be boiled

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twenty minutes, strained boiled water being added to make the quantity one pint. When the mixture has cooled to the temperature of 100°F., add one teaspoonful of cereo, which is a preparation of diastase made for this purpose. If the child is not vomiting I instruct the mother to give from 3 to 5 ounces either plain or salted, to which may be added from 1 to 2 ounces of chicken, beef or mutton broth. These may be alternated with a teaspoonful or two of beef juice. Children soon tire of any one article of diet except milk, if it is the only nourishment given. The various substitutes suggested to be added to the barley change its taste and its use can be continued for weeks, if necessary. If there is vomiting, as well as diarrhea, the stomach must be washed and nothing whatever given for a few hours, when a teaspoonful of water may be tried; if the water is retained it may be repeated every fifteen minutes, and followed by an equal amount of barley water at longer intervals; if it is vomited, feeding by gavage should be brought into use.

Gavage consists in the forcible introduction of food into the stomach through a tube. The same apparatus is employed as in stomach-washing, and the method is similar, with the exception that for gavage the child should be placed flat upon its back, the head being steadied by an assistant. In older children a mouth gag is often necessary. Sometimes when there is great resistance to the introduction of the tube into the mouth, it may be passed through the nose. After the tube has reached the stomach, the funnel should be raised to allow the gas to escape. The food is then poured into the funnel. As soon as the food has disappeared, the tube is tightly pinched and quickly withdrawn to prevent food from trickling into the pharynx, since this is often the cause of vomiting. If the food is regurgitated, the tube may be introduced again. After the feeding the child should be kept quiet upon its back for a while. The stomach should be washed before the first feeding and afterward at least once a day in order to remove mucus, and to be sure that it is empty before the meal is given. Gavage is a very simple procedure, and it is free from danger. Much of the success in using it depends upon the rapidity with which it can be done. With a

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little experience only fifteen or twenty seconds are required. In acute septic cases not only may food be given, but also such medicine and stimulants as may be required, with little or no trouble. The advantage of gavage over the continued coaxing and holding the nose, and forcing the patient to swallow, will be at once apparent to one using it.

Irrigation is of the greatest service when the stool is infrequent and foul. It is also useful in active cases having from six to eight passages daily, particularly if there is any blood, or much mucus. Irrigation should be repeated every twelve or twenty-four hours, depending upon the nature of the case. For the irrigation a soft rubber catheter, one that will not bend on itself, is used. It should be attached to a fountain syringe, the bag of which should contain about two quarts of a 1 per cent. boracic acid or normal salt solution, or if the amount of mucus is very large or if the stools contain blood, a 1 per cent. solution of tannic acid should be used. The bag should be held about three feet above the patient; the child should lie upon its back on the left side with legs well drawn up. The end of the catheter is oiled, passed into the rectum about two inches, and then the solution is allowed to pass in slowly and distend the parts. This you see facilitated the further introduction of the tube. Press the folds of the buttocks together until the colon is filled. This in a child of eighteen months of age will require twenty-four to thirty ounces of water. When this, or at least one pint is passed in, allow the solution to run in and out at the same time, the water being forced out alongside of the tube. This should be continued until the water returns clear.

The treatment should be prompt and rigidly enforced, no matter how slight the attack. Two factors must be borne in mind, the original source of intestinal trouble, i.e., the food, and the condition of the digestive tract. Our means must be directed to the correction of these conditions. In other words, stop the food, clear out the intestinal tract; all food should be withheld for at least twenty-four hours.

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SOME SUGGESTIONS IN CLINICAL DIAGNOSIS.*

BY O. S. McCOWN, M.D.
MEMPHIS.
Demonstrator of Clinical Diagnosis, Memphis Hospital Medical College.

It is necessary to make a diagnosis of every case we are called to see before we can give a prognosis or administer intelligent treatment. Diagnosis does not mean simply an accurate observation of the symptoms and physical signs, but it means a correct estimate of the pathological conditions which cause the symptoms and which constitute the disease proper.

In order to understand pathology it is essential that we be familiar with the anatomic appearance and the physiological function of every part of the human organism. I say every part, because the symptoms are often found appearing in some part remote from the seat of disease, and if only part of the organism is understood the location of the disease may never be found. Examples of this are palpitation and vertigo from gastric irritation, and pains in the calves of the legs in locomotor ataxia.

It is equally important to understand the etiology and pathology of every condition which may produce a given set of symptoms. In this connection I may mention the mistakes of indecision in diagnosis and consequent irresolution in treatment and uncertainty in prognosis, which result from the fact that several conditions may produce similar symptoms and physical signs. There is some degree of doubt in almost every diagnosis, and it requires the most careful analysis of the symptoms and physical signs to arrive at a correct conclusion, yet indecision and irresolution are fatal to the doctor's influence over the patient and the patient's family. First be sure that you are right, and you will have little trouble in convincing the patient and people that you are right. Pardon the allusion, but I would like to mention a little personal experience which emphasizes my idea. When I entered the hospital service, fresh from school, I found it very difficult after securing all possible information bearing on each case to

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decide on a diagnosis. Finally I determined to make a diagnosis of every case at the first examination and write it down on the bedside chart. Of course, I had to change many of these diagnoses, but the number of changes grew much less before my term of service was ended. I found this plan to aid me very much in being decisive. I still adhere to the plan of trying to reach a definite conclusion at each examination.

My way of reaching a conclusion is to sum up the symptoms and physical signs and reason from them the result to their most probable cause. In this way a correct estimate of the pathological condition can be arrived at, and as we have few specifics—quinin for malaria, antitoxin for diphtheria, and mercury and the iodides for syphilis, almost covering the field—it is more important to know pathology than to name the disease.

During the first quarter of the last century there flourished a set of practitioners who believed that all diseases were inflammations and should be treated by depletion and starvation. The two following sentences appear at the beginning of Francis Delafield's lecture on inflammation: "The ideas of the profession concerning the nature and phenomena of inflammation have varied widely at different times. But at all times the particular notions which prevailed have exercised a profound influence on the practice of medicine." Today the idea of inflammation holds most of its venerable prestige among the recognized phenomena of disease. A large majority of our disease processes are manifested by inflammation in some of its forms or degrees, consequently most symptoms and physical signs are represented by one or more of its phenomena, or are caused by its products. Conspicuous as examples of this are pneumonia, tuberculosis, meningitis, primary and tertiary syphilis, typhoid fever, etc., and as an exception, malaria.

The lesions of each specific disease are caused by the specific infection of this disease, and each requires its own specific medication if there be any, if not its own manner of handling. A knowledge of the pathology is of more importance in determining treatment than a knowledge of its cause, but prognosis depends largely upon the etiology.

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A given pathology does not always give the symptoms ascribed to it, hence we should be on the *qui vive* for such anomalies. The following case is taken from my book of hospital records. I examined the patient on admission and found an enlargement at the right costal margin which seemed to be continuous with the lower border of the liver. There were no symptoms except a slight tenderness over the mass and a septic appearance of the patient—no fever, rigors or sweats. I observed the patient carefully for seven days, during which time the mass grew, but no further symptoms developed. At the end of this time the patient had a chill, followed by a temperature of 103°F. This, with the presence of the enlargement, caused me to suggest to the visiting staff physician that we have the patient removed from the medical to the surgical ward for operation by the surgeon in charge. This was done. An incision was made and a large quantity of pus evacuated from the liver. The abscess was not encysted, and is an example of anomalies in symptomatology. We have to take the sum total of the symptoms and make our diagnosis accordingly, avoiding conclusions for which we have no adequate reason.

The diagnosis is often obscured by polypharmacy, hence another good reason for avoiding shotgun prescriptions. Decide what is the cause of the symptoms and direct your treatment to the cause.

Of the aids to diagnosis, the microscope is the most important. Every general practitioner should own a microscope and use it persistently in the examination of blood and urine. It is thoroughly practicable for every doctor to do this. Facility comes with practice, and by a little perseverance we can all become sufficiently proficient to make rapid and reliable blood and urine examinations. I believe that the day will finally come when the physician who does not use the microscope to this extent will be classed with the man who does not use the thermometer. It is more important for the general practitioner in the country to use the microscope for his blood and urine work than it is for the city physician, because in the cities there are laboratory specialists whom we can call on to do it for us. The rural practitioner would lose too much time

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in sending specimens to the city for examination. In a great many cases the microscope should almost or quite be a bedside aid to diagnosis.

The X-ray is of less general utility, but it has its place. It aids in the diagnosis of tuberculosis, of fractures and luxations, and in the location of foreign bodies. I do not believe the X-ray will ever be an essential to the equipment of the general practitioner. Its field of usefulness is too limited to justify the outlay of money and time in its purchase and use. All well-equipped laboratories have an X-ray outfit, and we should encourage the progressive laboratory men by having them examine our patients when such an examination promises to add to the exactness of our knowledge of the case in hand.

POINTS TO BE EMPHASIZED.

1. Make a diagnosis, whether you express it or not.
2. Avoid indecision; it is fatal to the physician as well as to the patient.
3. Symptoms are the result of a pathological cause; find the cause of the effect by inverse reasoning.
4. Inflammation constitutes a major part of most lesions, hence its phenomena are prominent in symptomatology and its products in the production of physical signs.
5. Watch for anomalies in symptoms.
6. Use your microscope for blood and urine examinations.
7. Patronize the laboratory men.
8. Most errors in diagnosis are from carelessness, not from ignorance—examine your patients.
9. Get at the pathology of the case in hand rather than try to make the case fit the textbook history of any special disease.
10. Avoid polypharmacy, because it obscures the diagnosis.

AUGUST—

The quiet August moon has come,
A slumberous silence fills the sky,
The fields are still, the woods are dumb,
In glassy sleep the waters lie.—*Bryant.*

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FALLACIES CONCERNING ADENOIDS.*

BY RICHMOND McKINNEY, M.D.
MEMPHIS.
Laryngologist to East End Dispensary, and to Presbyterian Hospital.

It is a peculiar paradox that even in a science so discriminating as that of medicine the psychology of fads is a factor as paramount as it is in other less scientific phases of everyday life. This is illustrated in the avidity with which every new dogma is seized upon and vigorously exploited, until, after the rocket has reached the highest point in its parabola, it bursts and descends a shattered vestige to the source from which it started. Such an element of too much credulity is found even among the members of a profession which has long been recognized for its at times extreme skepticism.

This credulity is in evidence in the remarkable results that are claimed to follow the operation for the removal of adenoid growths of the naso-pharynges of children. The early claims of Wilhelm Meyer, of Copenhagen, who is recognized universally as the first to exhaustively treat the subject of adenoids and the benefits following their removal, have been enlarged upon to an extent doubtless little dreamed of by this clever clinician, whose original work has, to my mind, received no valuable addition since the publication of the results of his observations and investigations in this disease in 1870.

We find that Francis, of Australia, vouchsafes the assertion that "Only one in about ten children has not adenoid thickening in the vault of the naso-pharynx." O nature, how deficient thou art in thy handiwork! This same observer has reported an array of conditions and symptoms relieved by the removal of adenoids that are appalling in their comprehensiveness. Others go equally as far in their claims of benefit following the now extremely popular operation for the removal of pharyngeal hypertrophies.

Do not from these introductory remarks infer that I am a disbeliever in the prevalence of adenoids, nor that I lack conviction of the benefit following their removal, for I am here to

* Read by invitation before the Montgomery County Medical Society, Clarksville, Tenn., May 9, 1902.

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assert to you *not* that there are not a great many sufferers with this disease in childhood, and likewise not a few in adult age, but to state that the claims for benefit following the operation are too general and too sweeping, and failure to obtain promised results in many of the cases operated upon no doubt tends to discredit an operation that in proper cases is one of the most beneficial procedures coming within the scope of modern surgery.

Laryngological literature has teemed with contributions to the subject of adenoids in the last few years, therefore it would appear a task of supererogation for me to consume your time in a recital of the history of the discovery of these hypertrophies of the naso-pharynx, and the development of the study of their nature and characteristics as inaugurated by Meyer. But it would seem that in this field, as in every other department of medicine and surgery, there is still fertile opportunity for the dissemination of knowledge that has been gleaned by the careful investigations of the various workers in this domain of progressive medicine.

This topic should by all means appeal particularly to the general practitioner, for *he* first observes the consequences of adenoids, and inasmuch as the best results are naturally obtained by early intervention, much responsibility becomes his lot, since prompt recognition of the disease is so essential to proper treatment.

We are taught by textbook writers that there are a number of classic symptoms, several or all of which we should expect to find in our adenoid patients. These symptoms briefly may be enumerated as mouth breathing, noisy respiration, a vacuous expression, distorted facies, and others of less moment. Yet I am prepared to state to you that many of these cases present practically no facial indications of the existence of such a condition. Frequently cases are overlooked merely because there are no objective indications, and it is not a rare thing to find a child with subjective symptoms of deafness, in whom the cause of this affliction—a pharyngeal adenoid—has been overlooked merely because there were no particular commonly expected symptoms pointing to the disease.

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The condition of purulent rhinitis in children, which is a not uncommon disease, has been attributed by Herbert Tilley and others to adenoids, but in an article on "The Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis," published in the *New York Medical Journal* for June 30, 1900, I reported two cases of this condition, occurring in brothers, followed by turbinal atrophy, in which there was no hypertrophy whatever of the pharyngeal tonsil, thus enabling me to offer evidence of a more or less conclusive nature that an adenoid is not always to be found where there is a purulent rhinitis. It is not to be denied, however, that a purulent discharge from the nose frequently accompanies adenoids.

The immediate effects of adenoids are not the most urgent indications for their removal, but they are remotely responsible for *some* ill consequences, which render early and proper treatment for the condition one of the most important considerations that we as specialists and general practitioners encounter in our juvenile patients.

In the first place it may be stated that the gravest of all affections induced by adenoids are the disorders of the ears. Indeed, Woakes, who has gone quite extensively into this subject, states that less than 5 per cent. of adenoid sufferers escape ear complications. This statement seems to me a little overdrawn, but it at least illustrates the fact that ear complications must play a very important rôle in patients who are thus afflicted. Deafness, which is a predominant symptom among those which we are called upon to relieve, in a young child produces inattention, stupidity and a general listless state, called by Guye, of Amsterdam, *aprosexia*. This condition in young children is one in which the most brilliant results follow the removal of adenoids. Another condition in which the operation is satisfactory, but perhaps not so sensational in its results, is that of the correction of mouth breathing. In this connection, however, I should like to express myself as convinced that hypertrophied faucial tonsils are also a factor in producing mouth breathing. Despite the statements of some who claim that wherever hypertrophied faucial tonsils are found there will likewise be hypertrophy of the pharyngeal tonsil, and that mouth breathing is due to the

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latter condition, I have observed cases where there could be no question as to the absence of the naso-pharyngeal adenoid, but where the faucial tonsils were markedly hypertrophied and there was concomitant mouth breathing.

Taking out of consideration the relief of ear conditions—notably bad hearing—and acute and chronic purulent otitis media and mouth breathing by the removal of adenoids, and the improvement in chest capacity and general physical development following the operation, which latter assuredly is not questioned by me, who have seen its effects in extended observation, in my opinion there is practically no other functional disorder or pathological state that is commonly benefited by this operation. In this statement I realize fully that I am controverting the opinion of some prominent men of the profession, for you who have kept *en rapport* with the literature of the past decade have no doubt noticed the great variety of conditions that it is claimed are relieved by resort to this operation. Epilepsy, nocturnal enuresis, asthma and almost the entire pathological category are comprised in this series of diseases which it is asserted are relieved by the removal of a bunch of adenoid hypertrophy from the naso-pharynx.

It is here that I would raise a warning cry as to the extreme radicalism of the views concerning adenoid pathology now almost universally held. No frequent operator who follows his cases can long remain deluded by the extravagant claims of many whose enthusiasm is the result of limited experience, excess of zeal or insufficent observation of their cases following operation.

One of the chief causes of failure to obtain pronounced benefit after removal of a naso-pharyngeal adenoid is found in the fact that where complaint of failure is most often heard the patient is beyond the age at which active reorganization and restoration are most likely to set in. The best results in these cases are obtained in patients from two to five years of age, and this limit may be raised to seven years under some conditions; but with inverse ratio to the increase of age, failure to secure results may be expected. When a child from ten to fourteen years of age is brought to us, we would be very unwise to give assurance of marked benefit following

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the operation, and I have many times in my earlier experience been confronted with the question of making satisfactory explanation to parents of the lack of beneficial results adequate to their expectation. In any case it is well to state before operating that definite changes cannot be expected immediately, but that improvement may be gradual and extending over a long period. Occasionally it will happen that improvement follows the operation, but a short while afterward there is a return of the symptoms which occasioned its advisement. This can in most all cases be attributed to incomplete removal, with recurrence of the growth, of which I shall say more presently.

We are told there is a tendency for adenoid growths, as well as hypertrophied faucial tonsils, to atrophy with the approach of puberty. This is truer of the naso-pharyngeal hypertrophy than it is of that of the faucial tonsils, for while the former condition is not particularly common in adults, the latter is very common at all ages. But if we wait for an adenoid to atrophy, which is by no means sure to occur, we are rendering the child liable to ear diseases, arch of the vault of the palate produced by insufficient respiration, poorly developed chest, etc., which may be avoided or rectified to a certain degree by a very simple operative procedure where this is done at an early age.

Another fallacy of which many physicians are guilty is to state that where there are hypertrophied faucial tonsils concurrently with a similar condition of the pharyngeal tonsil, removal of the latter will be followed by shrinkage of the former. This certainly has not been my experience, and in a paper on "Pathological Tonsils," read by me before the Tennessee State Medical Society at its meeting at Memphis, April 8, present year, I cited an illustrative case, occurring in a boy aged two years, from whose naso-pharynx I had removed a good-sized adenoid growth about three years ago, and whose faucial tonsils at this time were but slightly enlarged, who was again brought to me a short while since with the history of having developed symptoms similar to those occasioned by the adenoid, from which relief followed the previous operation, and who presented a pair of hypertrophied faucial ton-

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sils that almost occluded the throat. If removal of an adenoid will cause shrinkage in the faucial tonsils, assuredly it would appear to me that in this instance it would have *prevented* the considerable hypertrophy of the tonsils that ensued in this case. There is no evidence, I should state, of a return of the adenoid in this patient.

The extraordinary tendency to declare a large proportion of the juvenile members of the human family to be afflicted with adenoids is illustrated in the citation of the opinion of Francis, as quoted in my opening remarks. That the observer mentioned is not alone in his belief of almost universal affliction with this disease is evidenced in the fact that practically every child who has a few rugæ of the mucous membrane of the naso-pharynx that is brought to some of our latter-day extremists is pronounced to have hypertrophy of the pharyngeal tonsil, and a vigorous curetting of what may very likely be healthy tissue follows. This no doubt tends to increase the percentage of adenoid sufferers. It is only a few days since there was brought to me a little girl twelve years of age, whose parents desired me to tell them whether the child had an adenoid. To *my* finger the naso-pharynx was perfectly smooth. Yet the parents of the child informed me that a prominent specialist, in a not far-distant city, had pronounced the child to have an adenoid and had advised operation. It would indeed be an unkind nature and extraordinary state of environment that would produce an affliction so very common that nine out of ten children suffer with this disease. This demonstrates the necessity for a carefully educated and discriminating sense of touch in diagnosing this condition, for upon sense of touch must depend in almost every instance the making of a diagnosis in young children.

To secure good results in operating for adenoids, thoroughness of removal of the growth is absolutely essential, for if portions of the adenoid are left after operating, there is quite likely to be recurrence of the hypertrophied mass, with a return of its various manifestations, and the traumatism may set up an inflammation in the remaining portions which may give rise to a train of serious consequences.

This brings me to the last and concluding portion of this

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rather rambling and discursive paper, that is, the best method of operating for removal of these growths. Primarily, I desire to express unstinted condemnation of a method that is used by a small number of specialists, and there are comprised within these ranks quite a few very able men. I refer to the use of the finger nail alone, which seems to me to be inadequate for the thorough removal of these masses, which at times are rather tough in consistence, and which method does not appeal to the latter-day surgeon as one as thoroughly aseptic as is demanded by the principles of cleanliness now in vogue. It has also been my observation that in a good proportion of those cases which present recurrence, it will be found that the finger-nail method of operating had been used. While there are numerous methods and various instruments devised for the performance of this operation, with me nothing has been so satisfactory as the Gottstein curette, or one of its modifications, which I follow with the finger in order to ascertain if every vestige of the growth has been removed. But it is not my purpose to discuss the operative treatment of adenoids at length, and in closing I would only endeavor to impress upon you the importance of early recognition of the disease, precaution in diagnosing and thorough removal.

Lyceum Building.

THE THERAPEUTIC VALUE OF NORMAL SALT SOLUTION.*

BY JERE. L. CROOK, M.D.

JACKSON, TENN.

THAT water and salt are essential ingredients of the human system is an elemental teaching of physiology. We learn in the chapters devoted to the proximate principles of the body that water belongs to the inorganic class, and that it is the most important member of that class; while sodium chloride is rated as the most important of all the mineral constituents of the body. Physiologically speaking, we find that water constitutes 70 per cent. of the body's weight; that its presence in the blood and secretions is indispensable in order to

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give them the fluidity necessary to the performance of their functions. It is also a necessary condition both of the introduction and discharge of solid substances that they assume a fluid form. Water is therefore the essential element of all animal fluids, for it holds their ingredients in solution, and enables them to pass and repass through animal membranes. But we learn also that this process of endosmosis and exosmosis is dominated and regulated entirely by the presence of sodium chloride; that this element is the most abundant of the mineral ingredients next to lime phosphate; that it is present in all the tissues and fluids, and that in the blood it is nearly as abundant as all the other mineral ingredients combined.

While the physiological truths which I have stated have long been known, yet it is only within the very recent past that water and salt in combination have been used as a therapeutic measure. The first therapeutic application of this combination was in the treatment of shock due to hemorrhage, to supply to the collapsed vessels and enfeebled heart that which they had lost, a circulating medium, which, while not claiming to be the pure gold of the original blood, yet offered the depleted system a currency to discharge the debts of circulation and nutrition, until nature could redeem it by the coming of recreated blood.

This idea was so practical and natural that it appealed to the common sense of medical men everywhere. Normal salt solution was soon recognized as the most valuable therapeutic measure available in this condition, and by its use many lives are being saved every year, which without it would perish. From its use in cases of hemorrhage due to accident, it is but a step to its use in post-partum hemorrhage, and then in hemorrhage of all sorts, intestinal, renal, gastric and bronchial. By a simple course of inductive reasoning, it has since come to be used and recommended in dysentery, diarrhea, nephritis, uremia, septicemia and toxemias of all kinds. More recently, we find it used successfully in pneumonia, and the latest use that I have noted for it is in the treatment of typhoid fever, not for typhoid hemorrhage, but as a therapeutic measure, based on the physiological facts previously enumerated.

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Dr. Louis Fischer, visiting physician to the Willard Parker Hospital, New York, in a paper entitled "Typhoid Fever; Its Dietetic Treatment," published in the *Journal of the A. M. A.*, November 9, 1901, maintained that we must seek to supply the deficiency of liquid extracted from the blood, skin and tissues by the continued, exhausting fever, by infusing large quantities of normal saline solution. He also states: "If there is a distinct toxemia or evidences of profound systemic poisoning, nothing will be as useful as the introduction of large quantities of a normal saline solution hypodermically. The lymphatics during the febrile state are so greedy that they will absorb several quarts of this solution . . . and it is advisable if the patient has been benefited, to repeat these injections every six, twelve or twenty-four hours, depending on necessity. Flushing the system in this way will carry off from the skin and kidneys large quantities of poison." Another point he mentions, which I have not observed elsewhere, is that the white of a new egg can be added to the salt solution and injected hypodermically, thus adding an essential organic ingredient, albumin, which is so largely consumed by the fever. The remarks made by this writer on typhoid toxemia apply with equal force to toxemia from other causes, in all of which the "blood washing," as saline infusion has been cleverly termed, has proven to be a most valuable therapeutic advance.

Delancy Rochester, of the University of Buffalo, in a paper on pneumonia, read at the 1901 meeting of the American Medical Association, commends the use of the normal salt solution, subcutaneously and per rectum, in pneumonia where heart failure is imminent without evidence of right-sided distension, and also after venesection, and reports three cases where the solution had a marvelous effect. In diarrhèa and dysentery, where the system is being depleted by the loss of so much water and saline constituents of the blood, we find a perfect theoretical indication for the restoration of these elements to the blood and tissues, and by means of the salt solution experience has proven the correctness of the theory. In uremic coma, due to nephritis, or simple suppression of urine, the use of the salt and water combination is rational and suc-

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cessful, in some instances the results being truly remarkable. There are three methods by which this valuable combination may be introduced into the system: 1, rectally; 2, hypodermically; and, 3, intravenously. The rectum may be used in cases where, on account of lack of facilities, the other methods are unavailable. Also in cases where there is no great urgency, and where for any reason there is objection to either of the other methods.

The hypodermic method is preferable in all cases except those of the greatest urgency, where there has been a serious loss of vital fluid and moments are precious. In such cases, dissolution is so imminent that the lymphatics cannot be relied on to absorb the fluid rapidly enough, and it must be introduced directly into the circulation. Even in these cases it may be given both per rectum and hypodermically in addition to introducing it directly into a vein. The strength of the solution, as generally used, is a drachm of salt to sixteen ounces of warm water, or about a teaspoonful to the pint. Of the technique of introducing the solution per rectum, it is necessary to speak. In using it hypodermically, a large-sized aspirating needle attached to the tube of a fountain syringe is necessary. Both syringe and needle should be rendered sterile by boiling, and the water used should be boiled with the salt in it, allowed to cool to the proper temperature, 101°F., and then carefully strained before using. The needle should be introduced into the flank or thigh while the water is flowing through it, the skin having been properly cleansed.

In introducing the solution into a vein, the technique is somewhat more delicate and some care is necessary. Here, a very careful sterilization of solution, instruments, hands and skin should always precede the operation. A glass tube with a pointed end is preferable to a needle in venous infusion. The median cephalic vein, near the bend of the elbow, is usually selected. A tourniquet is applied just above the elbow, and the vein soon becomes distended with blood. It is exposed with a few strokes of the scalpel, dissected from its sheath, and a probe passed under it. A curved needle, threaded with catgut, is then passed around the vein, leaving

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the ends untied, at the upper and lower edge of the incision. A small slit is made in the vein, into which the glass tube with the solution flowing through it is thrust, the upper thread is tied over the tube, holding it in position, and the lower is used to ligate the vein. The effect of this direct influx of fluid is almost immediately perceptible in the pulse beat, and a quart of the solution can be introduced in less time here than when it has to encounter the resistance of the tissues in the hypodermic method.

I wish briefly to report some personal experience with each of the three methods of using this valuable therapeutic agent.

The first case that I shall report was that of a patient with acute septicemia and secondary hemorrhage following amputation of a portion of the hand. The arm was amputated above the wrist, a large amount of pus being stripped out before the stitches were placed. The patient came near dying on the table, and was in profound collapse when the operation was over. I was an assistant in the case, having been hurriedly summoned. We were at the patient's home, quite a distance from our offices. Nothing was at hand but a fountain syringe, four-quart size. This I hurriedly filled with water as hot as could be borne, put in a tablespoonful of salt, shook it up, inserted tube in the rectum, the patient being on the right side, and introduced three quarts. The pulse responded slowly but surely, and the patient finally reacted and made a good recovery.

Another case was a man who got his arm caught in a gin at Mercer, on the N. C. & St. L. R. R., about a month ago, and almost bled to death before I arrived. In this case I used the rectum as the avenue of entrance for my artificial blood serum, with the most gratifying results. I amputated the arm above the elbow, and primary healing followed, though the operation was done in a negro cabin, with three planks extending from the foot of the bed to the bureau as an operating table.

Another interesting case was that of a negro brakeman on the I. C. R. R., whose foot was mashed at Martin, Tenn. Chopart's amputation was performed there, and patient sent to me for subsequent treatment in the hospital at Jackson. This man was a victim of secondary syphilis, which caused a sloughing at the site of the operation, resulting in an alarming secondary hemorrhage. The patient was sleeping and not aware of his great danger. When the nurse went through

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the ward at 11 P.M. she found the bed clothing and dressings saturated with blood, and the patient almost dead. I was hurriedly summoned. We carried him to the operating room, hastily attached a needle to a fountain syringe, filled the syringe with normal salt solution and thrust the needle into the flank. The patient apparently was dying, respiration was shallow, about six to the minute, no pulse perceptible. We hesitated a moment whether to operate on a dying man, then decided to reopen the wound, which had ceased to bleed. It was found to be sloughing badly. I then amputated the leg about midway between ankle and knee, removed the tourniquet, and not one drop of blood flowed out. The man was too near dead to bleed. The vessels were found and secured with some difficulty, as they did not bleed a drop, and the operation completed. During the entire time we had the needle and irrigator attached, moving it from place to place as the tissues filled. Probably three or four pints of the saline solution were introduced into the tissues, and I feel sure that the patient owes his life to it, for he is living today.

The last case that I shall report was that of a farmer living at Carroll, Tenn., upon whom I operated for abscess of the liver, which had ruptured into the pleural cavity. Two ribs were resected, giving vent to a large amount of pus. Drainage tubes were inserted, and the patient rallied well from the operation, which was completed about noon. Six hours afterward the dressings and bed were saturated with the pus that had escaped since the operation, and they were changed. They were found to be saturated again a few hours later, and at 6 A.M. the patient went into a collapse, pulse 180, respiration labored (Cheyne-Stokes) in character, and the relatives gathered about to see him breathe his last. Here was a case of impending death, not from hemorrhage, but from extraction of fluid and saline ingredients from the body, and therefore a clear indication for saline infusion. While preparing the needle and syringe, nearly a quart was injected into the colon. Then, as soon as the needle and syringe were sterilized, about a pint was injected under the skin, with little or no effect from either effort. We decided then to use the intravenous method, and the effect was marvelous. Improvement followed almost immediately. About a quart of solution was used in the median cephalic vein, and the patient rapidly came out of his collapse. He, of course, received the benefit of all the solution used, though I think he would have died before he would have had time to get the benefit of it in the tissues and colon if I had not introduced it directly into the vein.

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REPORT OF TWO CASES,

One of Iritis, one of Keratitis, Both of Unusual Origin.*

BY J. L. MINOR, M.D.

MEMPHIS.

DURING the latter part of February, 1902, I was consulted by Mr. ——, from a neighboring city, for trouble with the left eye of a week's standing, which proved to be iritis, of syphilitic origin. The patient was placed on the usual constitutional treatment, and that sheet-anchor of local medication, atropia. A perfect cure resulted in five weeks, and the case would have been dismissed from further consideration, except for the history, which was given by himself and his physician, of his having contracted syphilis, through a cut on the chin, at the hand of a barber while being shaved, a chancre developing at that point a year before I saw him.

Four weeks ago Mr. M. came to see me about trouble with his right eye of six days duration. There was slight conjunctivitis; the cornea was slightly hazy and presented several faint horizontal streaks of greater haziness; and both cornea and conjunctiva were markedly anesthetic; the pupil was a trifle large and sluggish. There was a good deal of pain about the eye and supra-orbital region, and the supra-orbital nerve was tender to pressure. The information was vouchsafed that the whole condition was worse in the afternoons of alternate days, and that he was poisoned with malaria. I diagnosed malarial keratitis, and placed him on calomel and quinine; had him use a boric acid wash, and the man was well in a week.

These cases have been related, not because of their special importance or interest, but because through them I might urge this Society to take steps for the suppression of such infection, as produced syphilis in one instance, and malaria in another. Many years ago I was scared out of a barber shop on seeing the man who was to wait on me come with unwashed hands and the same towel from a customer with "barber's itch." Since then I have observed barbers with some interest, to see if steps were ever taken to prevent any form of infection from one customer to another, through care of their own hands, towels, brushes, razors, combs, etc. Only once have I been rewarded, and that was a dozen years ago,

* Read before Memphis and Shelby County Medical Society, June 3, 1902.

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in Paris. Since that time other localities in Europe and some in this country have enacted ordinances for the insurance of sanitary barber shops.

In no other habits of life are we so unobservant of personal care and cleanliness as in the barber shops; and this alone should beget a desire for a change. But other reasons are far more cogent. A single case of syphilis thus contracted, in its immediate effects and its ramifications, may far outweigh the cost and trouble of making every barber shop in the United States sanitary. We need not rest upon an individual instance to demonstrate such infection. Numerous cases have been reported, and many doubtless escape observation. I recall particularly an interesting paper on this subject by Dr. M. Goltman of this city, and I had supposed and hoped that it would have the effect of bringing out what I am undertaking in offering the following resolution, to wit:

That a committee be appointed to draft suitable resolutions for adoption by this Society, whereby the spread of disease through the medium of barbers' hands, razors, brushes, combs, towels, and other appurtenances of their trade, be prevented, by the proper sterilization of the same before their use on a second customer; and that the city authorities be requested to enact ordinances for the enforcement of such rules in all barber shops in Memphis.

As to malarial infection, some of the best observers claim that the mosquito is the only source; and all the rest are, I suppose, ready to acknowledge the importance of the anophele. It has certainly been demonstrated that stamping out the mosquito in any locality lessens malaria there. That Memphis is in the center of a malarial district cannot be gainsaid; and that mosquitoes are abundant, is equally patent. Now the stamping out of mosquitoes and malaria here would accomplish untold good. It undoubtedly would prove a great undertaking, and whether it could ever be absolutely accomplished is a question. With the vast swamps that surround us it would seem a herculean task to combat the mosquitoes at our doors. But the mosquito is not a great traveler, it being held by some that he rarely travels more than a few hundred feet, or yards, at most, though that there are exceptions to this rule even the most conservative do not deny. It has

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been demonstrated that kerosene oil, applied to the breeding places of mosquitoes on one's own premises, lessens their prevalence; and that if such measures be applied to communities, both mosquitoes and malaria are invariably lessened, and in some instances, practically stamped out.

I therefore ask that a committee be appointed to draft suitable resolutions for adoption by this Society, urging that the proper authorities enact such ordinances for the extermination of mosquitoes in the city of Memphis as have been demonstrated to be of value elsewhere.

RHEUMATOID ARTHRITIS.*

BY F. B. HAMILTON, M.D.
JACKSON, TENN.

In the production of this paper I have undertaken to give, as nearly as I can, a short history of my own case and three other cases of the same character, by way of illustration. I was first taken in June, 1886, during a long, hot, dry spell of weather. I do not deem it necessary to give the symptoms of the disease, as you can find them in any work on practice.

The one thing I wish to emphasize is the cause of this trouble. From my own case, and the three cases above mentioned, there is no doubt in my mind that it is caused from *spinal irritation.* Three out of four cases under observation were caused from an injury to the spine. My own case is from a gunshot wound in the neck, and the consequent injury to sixth cervical vertebra, which injury I received at the battle of Franklin, Tennessee; and twenty-one years after I received this injury, I began to suffer. Within a few months from the beginning of my suffering, all the joints of both extremities became involved. The two other cases referred to showed that the trouble followed the injury within fifteen or twenty years. The fourth case is a lady that could give no history of an injury, but she and her husband said that she had always suffered greatly from pain in her back. J. K. Mitchel believed that it was of spinal origin, but gave no reason for his conclusion.

* Read before West Tenn. Med. & Surg. Assn. at Jackson, May 22, 1902.

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In an article I read before this association in 1896, I contended that this trouble was caused from uric acid. I am now satisfied that that opinion was an error, and to correct that error and to emphasize the fact that rheumatoid arthritis is caused from spinal irritation, I now read this paper.

It is clear that if we know the cause of this or any other disease, we can select the remedies with more certainty of relief. If I had known that it was the result of traumatism, I could have treated my case more satisfactorily. I arrived at this conclusion only when I began to suffer with the wound. The symptoms were a partial paralysis of the nerves of sensation; my right ear and the right side of my scalp could be pinched or pricked without pain. Since noticing the above symptoms, I remember for several years past that the extensors of the upper and lower extremities are almost paralyzed. The latter symptoms were present before my ear and scalp began to lose sensation. If I bend my neck back for any length of time, my body feels slightly numb. I mention these symptoms because they point, unmistakably, to the fact that the arthritis is of spinal origin, and in most cases I believe are the direct result of traumatism. When I was first taken I was in robust health, and a splendid specimen of physical manhood, and now I am a complete wreck. I have been unable to walk for six years.

The treatment that would suggest itself would be to remove, as far as possible, the products of any inflammation about the injury to the spinal cord. The remedy best suited to this condition, and the one I have used with best results, is iodid of sodium. I give it in ten grain doses. I find no trouble in taking this preparation for months. The preparation I prefer is Merck's superior. Of this, very much larger doses can be taken than the ordinary iodid of soda. Iodid of potassium will not do, as it disturbs the stomach, and no remedy is to be used in this disease that interferes with the digestion. I have used piperazin with benefit. I do not know how it benefits. I only know it does in some way. A good tonic must be a part of the treatment. The one I use and prefer is the following: ℞ Quin. sulph., ferri redact., āā ʒj; ext. nucis vom., zinc phosphide, āā gr. x; acid. arsenious, gr. jv; ext. gentian, ʒj. M. et fiat, caps. No. 60. Sig.: One after each meal.

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With the above three remedies, you have the best combination that you can have for the relief of this trouble.

I have found temporary benefit from hot air. I have kept my legs in a cylinder one hour, heated to 350°–400°F. I had the leg wrapped in a blanket. It did no permanent good. I got no benefit from any form of diet. I have used at different times and altogether a nitrogenous diet, and at another time I used the carbohydrates, with no good results from either.

The diet best suited to the taste and appetite of the sufferer is the one I would recommend—that is, if it agrees with him—as I find when I have a good appetite and eat heartily I do best. I could write a large volume on the remedies I have used, but I would only condemn them. I have tried osteopathy, but it made me worse. In justice to the osteopath, I will say that he told me in the beginning that he did not think he could do me any good. I did not ask it, but Christian Science tried very hard to give me relief. I persisted in having pain in spite of their saying that there was no such thing. A good colored sister brought me a hoodoo. This hoodoo said he could compound something from fat pine and a walnut root growing north that would make me leap and run. But he departed without making me either leap or even walk.

I mention these things latterly to show that I have neglected nothing, either scientific or mystical; and the three remedies mentioned above are the only ones that have given me any relief. The only relief that I have gotten from any of these three remedies has been a relief from pain for the past two years.

PUERPERAL ECLAMPSIA.

BY F. E. WYATT, M.D.
YORKVILLE, TENN.

PUERPERAL eclampsia is an acute disease occurring in women in pregnancy, in labor and in childbed, often sudden in its onset, rapid in its progress, characterized by convulsions with loss of sensation and of consciousness, ending in coma, and is one of the most exciting conditions with which we, as obstetricians, have to deal.

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I shall never forget the third case to which I was called after entering upon the practice of medicine, which was one of eclampsia. Upon entering the room I found my patient in the throes of a convulsion, the first I had ever witnessed. In spite of myself, a feeling of regret and lack of confidence crept over me, which I could not dispel. But as soon as I could gather my wits, I summoned up all the courage I could, grasped the bull by the horns, and fortunately conducted the case to a favorable termination.

The premonitory symptoms of puerperal eclampsia are headache, disturbance of vision, often spots before the eyes, and epigastric pain, all of which may be present for several days before the attack. Other symptoms have been noticed, viz.: vertigo, vomiting, ringing in the ears, despondency, etc., but these are not constant. The convulsive manifestations come on suddenly. The patient is silent, with eyes fixed upon some distant object. The storm begins with quick movements of the eyelids, pupils widely dilated and insensible to light, face livid and distorted, head rolling from one side of the pillow to the other, bloody saliva exuding from between the lips, breathing stertorous, irregular and difficult, interspersed with piteous groans and hisses, the tongue often protruded from the half-open mouth. All in all, the picture presented is a horrible one to behold. These symptoms last from two to five minutes, when they begin to abate, and the patient passes into a state of coma, which lasts about half an hour, when she awakens into a state of semi-consciousness and is perfectly bewildered at the anxiety manifested by friends about her bedside, not remembering anything that has transpired, and all seems to be well with her. But not so; the stillness is soon succeded by another storm, as unfortunately eclampsia is not usually limited to a single attack, others following in from a few minutes to several hours, the coma becoming more profound with each succeeding attack.

There are quite a number of opinions as to the cause of puerperal eclampsia. Some believe it to be due to a neurosis, while others are of the opinion that it is due to a failure of the kidneys to perform their normal functions, while still others attribute it to faulty liver action. But nearly all agree

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that it is caused by an overproduction of toxins and an under-elimination by the emunctories, which is the most plausible theory, for it has been clearly proven by experimenting upon the lower animals that convulsions are more likely to follow the introduction of poisons into the pregnant than the non-pregnant.

If eclampsia occurs before term, abortion or premature labor usually follows; if it does not immediately supervene, the fetus dies and is expelled in a few days.

The treatment may be divided into prophylactic, curative and obstetric. It is very necessary that the physician should keep watch over the patient during the entire period of gestation. It should be seen to that the emunctories are performing their function normally. Frequent urinalyses should be made, and any fault found should be corrected. The hot bath or pack to secure good action of the skin, free catharsis and milk diet are the principal agents employed in the prophylactic treatment.

In an attack, clothing should be loosened about the neck to facilitate free circulation to the brain. A napkin is placed between the teeth to prevent laceration of the tongue. The therapeutic agents which may be employed are many, each physician having his favorite line of treatment. Among them may be mentioned chloral hydrate, the bromides, hypodermic injections of morphin and atropin, and chloroform by inhalation at the slightest appearance of a convulsion, while others rely solely upon the hypodermic use of veratrum viride, which must, however, be given with a guarded hand, for I noticed recently that a patient was poisoned by the too free use of this remedy. The condition produced was far more dangerous than the one being combated, and it was with the greatest effort that her life was saved. As for myself, the lancet, accompanied by the injection of normal saline solution, has proven more satisfactory in my hands than any of the medicinal agents.

I have employed it in a number of cases, and have never in a single instance had a recurrence of convulsions.

If the labor should progress slowly, or convulsions continue, of course the uterus should be emptied as early as possible by artificial means.

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OPERATION FOR ABSENCE OF ANUS.

BY G. A CAUSEY, M.D.

BALCH, ARK.

I was called to see Mrs. C., aged 35, July 14, 1901. She was delivered of an eight and a half-pound boy, about an hour after my arrival. An examination of the child disclosed the absence of anus. Every trace of the orifice was obliterated. The perineal raphe extended from the scrotum to the coccyx without any interruption. There were no external signs by which the location or existence of the rectum could be ascertained. There was no fluctuation when I made the first examination, but twenty-four hours later fluctuation could be obtained by pushing the finger upward in the direction of the rectum, while with the left hand pressure was being made upon the anterior abdominal wall.

An operation was immediately decided upon, which was performed in the following manner: The child being placed on its back on the knees of an assistant, with the thighs flexed, an incision was made in the median line from a point near the scrotum to the extremity of the coccyx, through the skin and superficial fascia. The incision was repeated, but gradually diminished in length, feeling before each stroke to ascertain by fluctuation the presence of the blind sac of the rectum and the position of the bladder. When the rectal sac was recognized it appeared as an elastic, fluctuating tumor of a dark brown color. The tumor was seized by forceps and by gentle traction it was ascertained that extensive adhesions existed. These were broken up with the handle of the scalpel, and the rectal sac drawn to a level with the integument. The cul-de-sac was then opened longitudinally, its contents emptied, the parts thoroughly cleansed and the margin of the rectum united by six sutures to the integument of the corresponding edges of the perineal opening. The wound was closed anteriorly and posteriorly by suture, the child's legs bound together with a bandage, and the wound dressed antiseptically. The tendency to contraction was very great, and was overcome only by repeated dilatation. There were no disturbances of nutrition following the operation, and the child is now in excellent health.

Life is a leaf of papers white,
Whereon each one of us may write
His word or two, and then comes night.

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PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

Infantile Cholera.

The treatment of acute gastro-enteritis (infantile cholera) of young children has been the subject of a recent article by Dr. Marfau (Paris Cor. *Medical Press & Circular*, vol. 73, no. 3294). It may be useful to give the experience of the author. Since gastro-enteritis of infants has its origin in the decomposition of the contents of the stomach and the intestines, it is certain that by suppressing temporarily alimentation the source of the evil is arrested. Yet up to late years it has been considered very dangerous to withdraw, even for a short time, from infants their natural food. But, as M. Marfau remarks, it is not abstinence from milk that the child ill supports, but abstinence from water. Consequently the medical attendant should be careful to replace the milk which he suppresses by an equal quantity of boiled water.

In grave cases of infantile cholera, says the author, all kinds of nourishment should be suppressed at the outset and only pure water allowed. If milk is continued the vomiting and diarrhea will persist, and the general condition become aggravated, as any alimentary substance introduced into the digestive tube becomes putrefied, increasing thereby the virulence of the microbes and give rise to toxins.

Pure water alone can be ingested without inconvenience. The water naturally should be sterilized by boiling a few minutes; it can be given cold and very freely for twenty-four hours. If at the end of that time the vomiting and diarrhea have ceased, and the temperature of the child has fallen to normal, a gradual return to the usual nourishment might be commenced, but frequently during the day the boiled water will take the place of milk. If after the first twenty-four hours the condition had not improved, the hydric diet might be prolonged for a similar period.

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Although the digestive disturbances may have disappeared, the condition of the patient grows worse, acute cachexia sets in, and a fatal termination results. In such cases, says M. Marfau, the cause lies in the fact that the treatment had not been commenced early enough, and the organism was impregnated with microbes or toxins which could not be eliminated. To obviate this difficulty, he associates with the hydric diet injections of salt water, a powerful eliminator of microbes, and has rarely in consequence had to deplore a fatal result of the affection. At the same time, he prescribes bathing twice or three times a day in water at 95°F. during five or ten minutes. These baths calm the nervous system, regulate the temperature and favor diuresis. Of therapeutic agents he prescribes calomel in fractional doses, and salicylate of bismuth.

An easy way to prepare lécethine:—raw eggs (yolk), ℥x; water, ℥ij; beat up, add glycerin, ℥xi; chloride of sodium, ℥ij; cherry-laurel water, ℥iij; syrup of lemons, ℥iv; rum, ℥ij. Two tablespoonfuls three times a day.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.
Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

The Surgical Treatment of Chronic Prostatic Hypertrophy.

C. H. Chetwood (*N. Y. Med. Jour.*, vol. 75, no. 22) concludes an instructive article with these remarks:

Palliative measures should not be persisted in when they fail after reasonable trial to produce and maintain an abatement of symptoms.

A first infection of the bladder is not alone sufficient excuse for operation unless palliative measures fail to promptly subdue inflammatory conditions.

Recurring infection of the bladder or ascending infection of the kidney is sufficient warrant for operative interference.

There is a growing tendency toward earlier operation than was formerly practiced.

The greater number of cases of prostatic hypertrophy can be satisfactorily reached through a perineal incision.

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In the large majority of cases, the requirements of any operation upon the prostate consist in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the *bas fond* may be properly drained.

In many cases the obstructing area of the hypertrophied gland can be satisfactorily reached and effectually removed through a perineal opening by means of galvano-caustic incisions.

Experimental Investigations on Peritonitis Caused by Stomach Contents.

At a recent meeting of the German Surgical Congress, Conrad (*Med. Press & Cir.*, vol. 73, no. 3291) reports his experience thusly:

The stomach contents were injected into the peritoneal cavities of animals. In most cases there was a mixed infection. In the healthy stomach even, there were always pathogenic microbes upon which the acid gastric juice acted harmfully. In diseased stomachs their number was greater. He had investigated the degree of infectiousness of stomach contents. He introduced 1 ccm. acid gastric juice into the rabbit's stomach. With small quantities the animals did not die until 50 ccm. had been injected. All other animals remained healthy even when large quantities had been introduced. When the acid of the juice was diminished in quantity, however, the animals quickly died of acute peritonitis. The virulence of the microbes was diminished by the acid of the gastric juice. It was the same in his opinion with the human subject, and this was of great importance in operations on the stomach. Thus in carcinoma of the stomach with but little acid in the gastric juice, the escape of stomach contents was very dangerous, much more so than when there was a normal degree of acidity in the contents of the stomach. He had repeatedly tried the effect of washing out the abdominal cavity with normal saline solution after the escape of gastric contents into it. Such washings out were generally practiced by surgeons after operation in perforative peritonitis. The experiments were made in such a way that certain measured quantities were injected into the peritoneum, and after being

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dispersed over the whole abdomen they were removed again. When acid streptococcus stomach contents were injected, 5 to 15 ccm. were certain to prove fatal. Some of the animals were improved at first by washing out, but they all died in the end. Injections of acid stomach contents were made up to 40 ccm. and the results were more favorable. Some of the animals died, but some were saved by the washing out.

NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary, and to Presbyterian Hospital.

A Study of Hyperplasia of the Pharyngeal Lymphoid Tissue.

Lartigau and Nicoll (*Amer. Jour. Med. Sc.*, vol. 123, no. 6) present an interesting and exhaustive study of this subject, closing with these conclusions:

1. Adenoids consist essentially of hyperplastic pharyngeal lymphoid tissue. The epithelium and fibrous tissue changes are inconsistent and variable, and independent of the age of the patient. The new-formed fibrous tissue is largely perivascular in distribution. It may occasionally be one of the factors in the process of disappearance of the adenoid.

2. The hyperplastic pharyngeal tonsil often contains microorganisms, and these are mainly pyococcal forms. The bacteria for the most part lie near the surface; and the infection usually occurs from the surface, with or without demonstrable lesion of the epithelium.

3. Primary tuberculosis of adenoids is probably more common than most previous studies show. 16 per cent. of our series contained tubercle bacilli, 10 per cent. with characteristic lesions of tuberculosis. The tubercle bacilli were present in small numbers.

4. The lesions in primary tuberculosis of the adenoid are generally close to the epithelial surface and focal in character. Occasionally they may be found in deeper parts of the pharyngeal lymphoid tissue.

5. The pharyngeal tonsil may be a portal of entry for the tubercle bacillus and other microörganisms in localized or general infections.

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Acute Inflammation of the Tonsils.

At a recent meeting of the Berlin Medical Society, Beckmann (*Med. Press & Cir.*, vol. 73, no. 3293) discussed this subject. He said the disease was well characterized. The inflammation might extend to the nose and then give rise to suppuration of the accessory cavities. If the tonsils were removed in a child with snuffles, these ceased at a stroke. In disease of the middle ear, the tonsils needed to be borne in mind and treated. He also attributed a number of cases of rheumatic paralysis to the tonsils.

In cases of recurrent rheumatism when the palatal tonsils were not diseased, he had repeatedly found inflammation of the pharyngeal tonsils, and when these were removed the rheumatism ceased. These seemed to be very important as regards the development of tuberculosis.

From these the tubercle bacillus got into the lymph-stream and were deposited in the glands. At the time when these developed at puberty the bacilli might break loose and set up tuberculosis.

The treatment of acute inflammation of the pharyngeal tonsils consisted in insufflations, removal of the secretions, and gargling. Operation was indicated only when there were ear complications. For the prevention of recurrences extirpation must be performed, but this ought to be radical.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee) Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Infected Ovarian Cysts.

R. Peterson (*Amer. Jour. Obstet.*, vol. 45, no. 294) concludes:

1. Suppuration of an ovarian cyst is a most serious complication and is productive of a high mortality, with or without operative interference.

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2. The contents of every suppurating cyst of the ovary should be subjected to searching microscopic and bacteriologic examination in order that more light may be shed upon the etiology and pathology of the condition.

3. There is good reason for the supposition that certain ovarian cysts reported as suppurating did not in reality contain pus, but that the gross appearances were due to certain changes in the fluid contents as a result of necrotic changes in the cyst wall.

4. When suppurating cysts of the ovary, shown definitely to contain pathogenic bacteria, have been removed by the abdominal route, the majority of the patients have died of general peritonitis.

5. Hence better results may be expected from vaginal incision and drainage in similar cases when the suppurating cyst does not reach much above the limits of the pelvis, since the liability of contaminating the pelvic peritoneum will be greatly diminished.

The Early Diagnosis of Uterine Cancer; Operative Limitations.

J. O. Polak (*N. Y. Med. Jour.*, vol. 76, no. 3) says:

1. The early diagnosis is possible.

2. The earliest symptoms differ, depending upon whether the disease begins during the menstrual life or after the menopause.

3. During menstrual life compare every bleeding with what it has been in the same woman. Be suspicious of intermenstrual spotting and serous discharge.

4. After the menopause, any serous or sanguineous discharge is significant.

5. Examine every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhea.

Finally. Limit radical operations to those cases in which the disease is confined to the uterine tissues.

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W. D. HAGGARD, M.D., Nashville. B. F. TURNER, M.D.

A STEP IN PREVENTION.

ON another page of this issue of the MONTHLY will be found a resolution introduced by Dr. J. L. Minor, of this city, at a recent meeting of the Memphis and Shelby County Medical Society, having as its purport a request that the Memphis City Council take steps to lessen the possibility of the propagation of infection by the use of dirty utensils by barbers, and to decrease the probability of malarial infection by the destruction of the now commonly accepted carriers of such—mosquitoes.

This resolution was quite timely, and in keeping with the trend of scientific opinion as derived from frequent and reliable observations. It is a well-known fact that individuals have been infected with the parasite of "barber's itch," an exceedingly disagreeable and loathsome disease, by the failure on the part of the barbers to carry out even the most superficial requirements of hygiene in shaving their customers. It is also well authenticated that people have been infected with the contagion of syphilis from the use of instruments in the hands of a barber who had previously used the same instruments upon customers who bore external manifestations of this disease.

Here the ounce of prevention could easily be put into practical application, for it would not be a great hardship to require barbers to have fresh towels for every customer, and to either

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immerse his razors and brushes in a sublimate solution, or else place them in a hot water or vapor bath for a few minutes. The little trouble that it would be to the barber would be more than offset by the reputation that he would get for cleanliness, and there is no doubt that such measures in the interests of his patrons would prove profitable to him in the long run.

That the propagation of malaria can be measurably reduced by the destruction of the hosts of the plasmodium—the Anopheles mosquitoes—has been time and again reliably demonstrated, and the reports of Major Gorgas, chief sanitary officer of Havana, in which this is again emphasized, are of the most convincing character. Municipal authorities throughout the civilized world are showing their appreciation of the possibilities of the prevention of malarial infection by the efforts that they are making to destroy the carriers of infection, and to drain or else protect by covering or oiling the surfaces of the breeding places of the Anopheles. This work might likewise be taken up by the Memphis Board of Health; for with the very efficient sanitary corps now employed by the city, the further expense of such preventive measures should not be considerably enhanced, and we feel that it would be greatly to the interest of the city for such steps to be undertaken. We are heartily in sympathy with Dr. Minor's resolution, and hope that it will not be casually passed over by the City Council.

THE MISTAKE OF SENSATIONALISM.

The recent illness of the king of England has been fruitful of much discussion of various kinds, but unquestionably one of the most interesting phases of this is the comparison that has been made of the conduct of this case as regards the public with that of the late President McKinley. This comparison, we are reluctantly compelled to state, has been derogatory to the Americans. The fact that the Englishmen all along contented themselves with concise bulletins, in which they merely stated perhaps that the king had passed a comfortable night and was doing as well as expected, or some similar statement, instead of going into a minute and lengthy account of the condition of the patient's pulse, his temperature, how many

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spoonfuls of broth he ate, or what was given him by enema, etc., as done by the attendants upon President McKinley, is claimed to be much more dignified and to savor less of sensationalism, and therefore is more in consonance with what is expected of physicians.

In this argument we fully accord, for it is neither very considerate of the patient or his family to publish such details, nor compatible with professional decorum to cater to public morbid craving by supplying the casual reader with yellow journal bulletins. It cannot be argued that the public would have any more than a passing interest in that a distinguished patient's pulse was 120 yesterday morning with a temperature of 102 degrees, and that he was suffering with borborygmus, or that it was necessary to administer strychnin and whiskey to stimulate a failing heart, for the layman is not expected to have the knowledge of these facts that is possessed by the clinician. The layman is interested only in knowing as to whether the patient is doing satisfactorily or the contrary. Assuredly the medical attendants gain more in the public eye by deportment in such matters in keeping with the supreme dignity of their calling.

EDITOR'S NOTES.

Messrs. Reed & Carnrick, of Jersey City, N. J., are conducting a high class and up-to-date laboratory for making chemical, physiological, pathological and bacteriological examinations. They desire us to announce that they will be glad to receive the encouragement of members of the profession who have such material to submit for examination.

The Marine Hospital Service, according to a bill passed at the close of the last session of Congress, will in the future be known as the United States Public Health and Marine Hospital Service. This bill extends the jurisdiction and increases the authority of the service during times of epidemics, and also provides for the holding of joint conventions with the State authorities, which will ensure coöperation between the State and Federal health departments.

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Dr. James T. Jelks, of Hot Springs, Ark., died suddenly on June 24, in the fifty-third year of his age. Dr. Jelks was a man of considerable prominence in the profession, having at various times been honored with offices at the hands of medical organizations with which he was connected, and holding several positions as a teacher in medical colleges. The deceased was, at the time of his death, editor of the *Hot Springs Medical Journal*, and was well and favorably known for his numerous contributions to medical literature.

The American Electro-Therapeutic Association will hold its annual meeting at the Hotel Kaaterskill, Catskill Mountains, New York, September 2–3–4, 1902.

SOCIETY PROCEEDINGS.

MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY.

Regular meeting, July 1, 1902.

President Dr. Alfred Moore in the chair. Present, Drs. Alfred Moore, Barton, Andrews, Kane, Farris, Ellett, A. B. Williams, McCown, Holt, Burns, Black, W. B. Sanford.

Dr. W. B. Burns read a paper on *Malarial Nephritis.*

Dr. W. B. Sanford asked, in discussing Dr. Burns' paper, if Dr. Burns could demonstrate with the microscope a different kind of plasmodium for each type or form of malarial fever.

Dr. Ellett wanted to know if it was now taught that red blood corpuscles were nucleated.

Dr. Black asked Dr. Burns if he had a patient suffering from malaria and nephritis, could he tell whether or not the nephritis was due to malaria, or whether it existed before patient was attacked with malaria. Said that about one out of four patients admitted to hospitals had nephritis, whether they had malaria or not.

Dr. Burns said in answer to Dr. Sanford, that he could easily demonstrate three forms of malarial parasite. Thought quinin the only treatment for malaria. In answer to Dr. Ellett, said that he had simply quoted Ewing with regard to

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the nucleated red cells. In answer to Dr. Black, said that he thought he could tell whether the nephritis was due to malaria or had existed previous to the malaria by careful clinical diagnosis.

Dr. N. H. Bell read a report of *Some Cases from Service of Dr. E. C. Ellett at the City Hospital.*

Dr. Andrews, in discussing Dr. Bell's paper, also reported a case of ophthalmia neonatorum, which he thought was due to infection of the uterus before reaching the vagina.

Dr. Ellett thought the cases of ophthalmia neonatorum reported by Dr. Bell were infected in utero. Also said that he preferred holocain to cocain for local anesthetic—was an antiseptic and did not dilate pupil.

Dr. Ellett reported a case upon which he had operated for tonsillitis and removal of adenoids, showing specimens of tonsils and adenoids.

Dr. Andrews, for the Credential Committee, reported the name of Dr. J. F. Graham, who was elected unanimously.

The following resolutions, presented by Dr. J. L. Minor, were adopted unanimously:

WHEREAS, disease infection at the hands of the barber is an established fact, and

WHEREAS, rules for sanitary regulation of barber shops have been put in operation elsewhere, be it

Resolved, That the Memphis and Shelby County Medical Society request the city authorities to pass an ordinance which will prevent the spread of disease through the medium of barbers' hands, razors, brushes, combs, towels and other appurtenances of their trade, by proper sterilization of the same before their use on a customer.

WHEREAS, malarial infection by the mosquito has been demonstrated, and

WHEREAS, means for the extermination of the mosquito have been successfully practiced elsewhere, with marked reduction of malaria, be it

Resolved, That the Memphis and Shelby County Medical Society request the city authorities to adopt such measures for the extermination of the mosquito as have been successfully used in other localities.

The society also unanimously adopted the following resolution, presented by Dr. E. C. Ellett:

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The Memphis and Shelby County Medical Society, representing the regular physicians of Memphis, would respectfully ask that the ordinance relative to the indiscriminate use of fireworks and explosives be enforced on the coming Fourth of July. We ask this for the reason that the demonstration is not a manifestation of patriotism, many of the participants being ignorant of the occasion which they celebrate, and others not actuated by any other motive than that of making a noise, as we have ascertained by inquiry. The observance of this occasion as permitted in this city, in spite of an ordinance to the contrary, results every year in numerous painful, dangerous and sometimes fatal accidents—facts which we as physicians cannot fail to see—and the streets of the city are made for the greater part of the day unsafe for driving or even walking.

The fact that disastrous fires, with loss to property, are also apt to occur, is an additional reason for the request.

We therefore ask that such instructions be given to the chief of police, and through him to the patrolmen, as will at least restrict what we believe to be a nuisance and a menace to the health of the community.

DeSOTO COUNTY (MISS.) MEDICAL ASSOCIATION.

Regular meeting, Hernando, May 5, 1902.

First session, 10 A.M.

Present: Drs. T. M. Jones, Hernando, President; S. M. Watson, Pleasant Hill; W. T. Wilkins, Lewisburg; W. S. Weissinger, Hernando; A. J. Jagoe, Hernando; A. L. Emerson, Eudora; A. J. Weissinger, Days; W. D. Mims, Cockburn; Battle Malone, Memphis, Tenn.

The Secretary reported having invited to this meeting Drs. Frank A. Jones, E. M. Holder, Battle Malone, B. F. Turner, William Krauss, and Richmond McKinney, all of Memphis, Tenn., and Dr. K. P. Perkins, of Batesville, all of whom accepted and promised papers.

The President first delivered his inaugural address.

Dr. A. J. Weissinger read a paper on *Influenza and Its After Effects*. Discussed by Drs. W. S. Weissinger, S. M. Watson, W. D. Mims, Battle Malone, A. J. Jagoe, T. M. Jones.

Dr. A. J. Jagoe read a paper on *Puerperal Hemorrhage*. Discussed by Drs. W. S. Weissinger, S. M. Watson, W. D. Mims, Battle Malone and W. T. Wilkins.

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Second session, 2:30 P.M.

Dr. S. M. Watson read a paper on *Tonsillitis.* Discussed by Drs. Weissinger, W. D. Mims, W. T. Wilkins, T. M. Jones, S. M. Watson.

Dr. Battle Malone read a paper on *Fracture of the Femoral Neck.* (See MONTHLY for July.) Discussed by Drs. A. J. Jagoe, T. M. Jones.

Dr. W. S. Weissinger read a paper on *Syphilis and its Remote Effects, Including Heredity.* Discussed by Drs. W. T. Wilkins and T. M. Jones.

Evening session, 8 P.M.

Present: Drs. T. M. Jones, W. S. Weissinger, A. L. Emerson, A. J. Jagoe, Wall, Mr. E. H. Randle, and Drs. Frank A. Jones, E. M. Holder and B. F. Turner, of Memphis, as visitors.

Dr. Holder read a paper on *Some Cases in General Surgery —Trephining for Epilepsy—Report of Three Cases.* Discussed by Drs. Turner, Wall, Mr. E. H. Randle, Drs. F. A. Jones, A. L. Emerson, W. S. Weissenger.

Dr. B. F. Turner spoke from notes on *Affections of Brain Secondary to Local Inflammatory Lesions.* Discussed by Drs. W. S. Weissinger and F. A. Jones.

Dr. Frank A. Jones spoke extempore on *Stricture of the Rectum.* Discussed by Drs. Holder, Turner, Jagoe, T. M. Jones.

Fourth session, May 6, 10 A.M.

Dr. A. L. Emerson read a paper on *Gonorrhea and Its Relation to Marriage.* Discussed by Drs. Wilkins, T. M. Jones, Perkins, A. J. Weissinger, Jagoe, W. S. Weissinger.

Dr. K. P. Perkins read a paper reporting *Four Cases of Knee-joint Injuries.* Discussed by Drs. Wilkins, W. S. Weissinger, Emerson, T. M. Jones.

Dr. W. T. Wilkins read a paper on *Diphtheria.* Discussed by Drs. W. S. Weissinger, A. J. Weissinger, T. M. Jones.

Dr. T. M. Jones read a paper on *Vaccination and Smallpox.* Discussed by Drs. W. S. Weissinger and K. P. Perkins.

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Cases were reported by Drs. A. J. Weissinger and K. P. Perkins.

Drs. B. F. Turner, Frank A. Jones, E. M. Holder and Battle Malone, of Memphis, and Dr. K. P. Perkins, of Batesville, were elected to honorary membership.

BOOK REVIEWS.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumption, etc. Vol. IX. Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy. By Dr. Wilhelm Winternitz, Professor of Clinical Medicine in the University of Vienna; Director of the General Polyclinic in Vienna. Assisted by Dr. Alois Strasser, Instructor in Clinical Medicine at the University of Vienna, and Dr. B. Buxbaum, Chief Physician of the Hydrotherapeutic Institute in Vienna. Balneology and Crounotherapy. By Dr. E. Heinrich Kisch, Professor in the University of Prague; Physician at Marienbad Spa. Translated by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc., and with Notes on American Springs, by Guy Hinsdale, A.M., M.D., Including Special Chapters on the Classification of Mineral Waters and their Distribution in the United States, by A. C. Peale, M.D., Aid in the National Museum, Washington, D. C., in Charge of Mineral Water Statistics of the United States Geological Survey; on the Practice of Phototherapy and Thermotherapy, by J. H. Kellogg, M.D., of Battle Creek, Michigan; and on Saline Irrigation and Infusions, by Harvey Cushing, M.D., of John Hopkins Hospital, Baltimore; also an Appendix by the Editor. Illustrated. Published by P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia.

Although this volume of this excellent system has been somewhat delayed in appearance, this delay has proved beneficial in that it permitted the insertion of several chapters on important subjects and an appendix containing additional methods for the therapeutic use of water, heat, cold, light, mineral baths, and descriptions of new instruments, bringing the work right down to date.

In this volume has been considered the subject of hydrotherapy, thermotherapy, phototherapy, balneology and crounotherapy. Its discussion of the various methods of using water in the treatment of disease is exceedingly graphic and thorough. The application of water both externally and internally is exhaustively studied, and the work is a valuable exposition of the entire sum of up-to-date knowledge in this line. Many good illustrations are found in this volume, and they add considerably to the usefulness of the work. The portion of the book devoted to the consideration of mineral waters and their uses alone would render it of paramount value.

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A TREATISE ON CELLULAR TOXINS, OR THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE. By Victor C. Vaughan, PH.D., M.D., Professor of Hygiene and Physiological Chemistry, and Frederick G Novy, M.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. New (fourth) edition, revised and enlarged. In one 8vo. volume of 480 pages, with 6 illustrations. Cloth, $3.00 net. Lea Brothers & Co., publishers, Philadelphia and New York, 1902.

It is rarely that a work on a special and rather abstruse scientific subject receives such great vogue as the present work by Drs. Vaughan and Novy, and this popularity for the book can in a large measure no doubt be accounted for by the high scientific standing of its authors.

The recognition of cell poisoning as the starting point of infectious diseases has been epoch-marking in modern medicine, and the authors of this book have contributed some of the most valuable literature that has been added to this subject. In this work they review the results of modern investigation concerning cellular toxins and their works, and present their subject matter in a manner that is readily comprehended and assimilated.

The importance of a knowledge of the subject of cellular toxins and their effects is obvious to the educated medical man, and we know of no work on this question more authoritative than this.

THE ESSENTIALS OF HISTOLOGY, Descriptive and Practical, by E. A. Schäfer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh; formerly Jodrell Professor of Physiology in University College, London. New (sixth) edition, revised and enlarged. In one octavo volume of 426 pages, with 463 illustrations. Cloth, $3.00 net. Lea Brothers & Co., Philadelphia and New York.

The number of English speaking students who have acquired their knowledge of histology largely from this well known work of Schäfer's would be difficult to estimate, since it is unquestionably the best known and most extensively used textbook on this subject in the English language. The writer of this review used it, and it was used by many students before him. The book is now in its sixth edition, and has received many additions on important subjects, besides having been practically entirely rewritten and added to. It is in every way desirable as a textbook.

A MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, Including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, U. S. A. Designed for Military and Civil Use by Alvah H. Doty, M.D., Health Officer of the Port of New York, Late Major and Surgeon Ninth Regiment, N. G. S., N. Y., Late Attending Surgeon to Bellevue Hospital Dispensary, New York. Fourth edition, revised and enlarged. D. Appleton & Co., New York and London.

Dr. Doty has prepared in this manual an instructive book that could well be read by everyone. His descriptions of technique in emergency cases are exceedingly simple, and the value of the book to the layman, nurse and physician is so apparent that we can readily understand the popularity which would call for a fourth edition of the work.

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A knowledge of the best methods of rendering prompt aid to the injured, no matter what the character of the injury, is an essential that should not merely be regarded as the prerogative and expected accomplishment of the physician, for too rarely is the physician absent from the scene of accident when the exigency demanding his services arises. Therefore it becomes imperative that others should have instruction in these requirements, and this manual will prove a most excellent teacher.

THE COMPOSITE MAN, as Comprehended in Fourteen Anatomical Impersonations, by E. H. PRATT, A.M., M.D., LL.D. The New Age Publishing House, 100 State street, Chicago.

In this work the author has combined the substance of a series of popular lectures on the structure of the human body delivered by the author at an early period in his career. They are intended to acquaint the general reader with a knowledge of anatomy and physiology—especially the latter—that may prove of benefit to him in attaining an intimate acquaintance with that wonderful organism —the human body—and the best methods of maintaining it in its normal vigor.

The author has presented this study in a manner that should prove highly acceptable to every reader, for his language is not of the kind that requires a scientific training for its comprehension. The work would prove a valuable addition to every school curriculum.

A TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., PH.D., Clinical Professor of Dermatology, Jefferson Medical College and Woman's Medical College, Philadelphia; Dermatologist to the Howard and Philadelphia Hospitals. Handsome octavo of 1125 pages, with 220 text illustrations, and 26 full-page lithographic and half-tone plates. Philadelphia & London: W. B. Saunders & Co., 1902. Cloth, $6.00 net; Sheep or Half Morocco, $7.00 net.

Of recent works on diseases of the skin, this is about the fullest and most complete. It seems in itself to be a recognition of the fact that a subject so comprehensive as dermatology requires more exhaustive consideration than is commonly accorded it in the rather brief manuals which usually are devoted to its discussion.

The author of this book has borne in mind the fact that the making of a diagnosis is the first and most important stepping-stone to a rational treatment for cutaneous lesions, and has accorded this subject much elaborateness. Then he has gone into treatment with more than common clearness and accuracy, not being content with merely giving the remedies and methods used in his own practice, but likewise having frequently referred to those which have found favor with others.

The subject of dermatology presents to the average mind a chaos interminable, but with the aid of such a thorough work as this the field of observation becomes clear, and diagnosis, with appropriate treatment, becomes merely a question of application. To aid at arriving at a diagnosis in the various lesions considered, the author has elucidated his subject by the addition of a large number of illustrations, mainly from his own collection, besides a number of excellent colored lithographic plates.

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Saunders' Medical Hand-Atlases.

ATLAS AND EPITOME OF ABDOMINAL HERNIAS. By Privatdocent Dr. George Sultan, of Gottingen. Edited, with additions, by William B. Coley, M.D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons). With 119 illustrations, 36 of them in colors, and 277 pages of text. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $3.00 net.

It is a very acceptable departure from the accustomed paths of conventional topics for a special subject to be portrayed in its entirety in one of these atlases. No subject of more pertinent interest for such treatment could have been selected than that of abdominal hernias.

This subject is covered in its entirety in this atlas, and with the splendid colored plates before us, we might readily imagine that we are in the presence of the subject for operation.

Undoubtedly this should prove one of the most valuable additions to this already highly valued series of medical hand atlases, for it will do much to aid the practitioner in grasping the situations presented in this class of cases, and in giving them the prompt assistance that usually is demanded.

After Results of Removal of the Cervix for Carcinoma.

At a recent meeting of the Obstetrical Society of London, A. H. N. Lewers (*Med. Press & Cir.*, vol. 73, no. 3292) showed microscopic sections from eight cases of cancer of the cervix in which the patients had remained free from recurrence for periods of four to fifteen years. The time since operation in the eight cases was as follows: Fifteen years, twelve years (two cases), nine years, seven years, five years, and four years (two cases). In all except one of the twelve-year cases the growth was a squamous-celled carcinoma, the exception being a columnar-celled variety. It happened that in all these cases the operation performed was amputation of the cervix. In his later cases he had generally done vaginal hysterectomy, not because it gave much better results as regards prognosis, but because leaving the body of the uterus was apt to be followed by bad sequelæ from contraction of the uterine canal, dysmenorrhea, or retention and suppuration of menstrual products in the uterine cavity. He considered that four years' freedom from recurrence might be regarded as a cure. Certainly he had not met with a case in his own practice in which recurrence took place after four years.

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MEMPHIS
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ORIGINAL ARTICLES.

SERUM THERAPY IN LARYNGEAL DIPHTHERIA.*

BY ADOLPH O. PFINGST, M.D.
Ophthalmic and Aural Surgeon to Louisville City Hospital;
Professor Physiology Louisville Medical College, etc., etc.
LOUISVILLE, KY.

IT has not been long since membranous croup and diphtheria were considered separate and distinct diseases. Even after the discovery of the diphtheria bacillus by Klebs in 1884, its subsequent isolation and cultivation by Loeffler, and the observation that it is present in the exudation of diphtheria and of membranous croup alike, only a small portion of the medical profession adopted the view that these two conditions are identical. Certainly with so vast a difference in their clinical course it was hard, even for the most sanguine investigators, to adopt at once the idea of a unity of the infectious element, and much scepticism existed regarding the bacteriological diagnosis. However, since the advent of the serum therapy and its more general employment, various manifestations of diphtheria have been recognized, and the membranous croup of the older writers is now generally designated "laryngeal diphtheria." It is in this primary laryngeal form of diphtheria, until recently the most dreaded and fatal of the affections of childhood, that antitoxin has achieved its greatest success. But also in the faucial variety with secondary laryngeal invasion has the serum treatment been of ines-

* Read before Kentucky State Medical Society at Paducah, May, 1902.

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timable value. Although it is my purpose today more especially to point out the influence of antitoxin in laryngeal diphtheria, I will ask you to bear with me for a brief résumé of some important statistics bearing on diphtheria in general. By applying to the health boards of the larger cities of the United States, Canada and England, I have, through the kindness of the health officers, obtained some valuable and interesting figures. My German statistics are taken from hospital reports. It is to be noted that, without an exception, the decrease in the death rate began soon after the introduction of the serum therapy, and that it has continued steadily. I will not cite all of the figures at my command, but will confine myself to those most complete.

The greatest reduction in the death rate after the introduction of antitoxin is reported from Chicago. From an annual mortality rate of 41.96 per cent. of cases in the period of five years before the use of the serum treatment, the death rate was reduced to 6.79 per cent. in the five following years, during which 5727 cases were treated with antitoxin.

The least reduction was recorded in Glasgow, Scotland, where diphtheria is comparatively a rare disease. In the last six years of the pre-antitoxin period, 42.2 per cent. of all cases of diphtheria died. In the six subsequent years the death rate, in 1212 cases reported, was 21.6 per cent.

In Sheffield, England, in 1901, the best year since the antitoxin has been in use, gives a death rate of 15.96 per cent. Dr. Jno. Robertson, the medical health officer of Sheffield, has in a personal letter expressed the belief that the less favorable results in England from the serum therapy can be attributed largely to a certain timidity on the part of the profession of England in adopting the new treatment. He stated that the treatment was not taken up in Sheffield until 1897, and that since then the mortality rate, which had ranged from 35 to 43.5 per cent., has gradually been reduced, until in the last year among 1596 cases it was only 15.96 per cent. This, however, included all cases, irrespective of the manner of treatment; and as antitoxin had been administered in but 45 per cent. of the cases it is in fair proportion with our American records.

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In Edinburgh the mortality rate for 1901 of over 1000 cases was 18 per cent. Manner of treatment not specified.

Briefly glancing at the reports of several American cities, we find St. Louis with a death rate of 35.46 per cent. for six years before the antitoxin period, and 15.67 per cent. for the six following years. Of the latter, which included 13,593 cases, 2347 were given antitoxin, and only 8.75 per cent. of these died, though the majority of the cases were among the poor and imperfectly fed, many of whom were of low vitality.

Similar records from Newark, N. J., give a mortality of 15.4 per cent. of all cases, 7157 in number, in six years of antitoxin period, and less than 9 per cent. in those treated with antitoxin.

The figures of the health board of New York city correspond with the foregoing. The mortality rate for five years prior to the use of antitoxin was 28.03 per cent.; for the same period since then, including 62,902 cases, 14.32 per cent.

To judge accurately and intelligently of the real value of the serum therapy, a comparison should be made of cases treated with and without it. Most health boards, however, have been unable to obtain such reports. Boston, for instance, gives an average mortality of 10.5 per cent. of 10,001 cases, and Buffalo 17.5 per cent. of 5830 cases reported in the last six years; Washington 11.85 per cent. of 675 cases, Baltimore 8.8 per cent. of over 1000 cases, Minneapolis 10.2 per cent. of 1863 cases, and San Francisco 12.74 per cent. of 383 cases for the last year, none of these making reference to any special treatment. In Washington record was kept by the health board of the manner of treatment for seven months. But 3.8 per cent. of the 211 cases treated with antitoxin died, while the death rate in the 190 children treated by other means was 34.2 per cent. In Newark 4283 cases were treated with antitoxin with a death rate of 10.02 per cent., while 2904 were treated without it with a death rate of 20.35 per cent. In all of these cities the mortality in the pre-antitoxin period ranged from 28.5 to 42 per cent.

Dr. M. K. Allen has recently made a careful investigation of 402 cases reported in Louisville in four months of last year,

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the results of which he published in the *American Practitioner and News* of last April. Antitoxin was used in all but 59 cases, with a death rate of 6.8 per cent. In the cases not treated with antitoxin the mortality was 22 per cent.

In Germany, a summary of over 100,000 cases gathered by Dr. F. Seigert from reports of all of the leading hospitals of that country, show an average mortality of 41.5 per cent. in the four years previous to the employment of antitoxin, and an average of 16.4 per cent. in the four subsequent years. As the mild cases are not often sent to the hospitals, these figures include mostly severe cases.

In the compilation of the various statistics to prove the value of antitoxin treatment, the fact must be kept in mind that many of the cases reported as diphtheria in recent years were formerly classified as follicular tonsillitis. This is evidenced by an increase in the number of diphtheria cases reported to most of the health boards in the last six or eight years. Illustrative of this point I quote from the Buffalo records as follows: "The fact was established that the large majority of the illness previously considered as non-infectious tonsillitis was due to the diphtheria bacillus." From the Chicago report I take the following: "Frequently while clinical symptoms do not yet point to diphtheria, the microscope will reveal the presence of the diphtheria bacillus, whereupon antitoxin is at once administered."

The more the pseudo-diphtheria bacillus is studied, the more convincing are the results that it is the same as the Klebs-Loeffler bacillus. Its morphological and cultural characteristics are the same, the only difference between the two being the absence of the poisonous by-products in the pseudo-bacillus. Knowing this, too much reliance should not be placed in the bacteriological diagnosis of diphtheria, especially in the rapid diagnosis in twenty-four to thirty-six hours. The presence of the pseudo-membrane should be recognized as the most important symptom of diphtheria. However, we know also, that exceptionally there may be a pronounced pseudo-membrane without the presence of the diptheria bacillus. These cases which are met with in the common infectious diseases of childhood are due to an infection by the

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pyogenic cocci. They run the same clinical course as the others, but fail to respond to diphtheria antitoxin treatment.

I believe that the results of diphtheria treatment would be still better were it not for those cases in which we have to deal with complications of the staphylococcus and streptococcus. We know that in cases of mixed infection there is a tendency to involvement of greater areas, and that the combination of the toxic effect of the diphtheria bacillus with the septic infection is more apt to lead to a fatal termination than a simple infection. From the latest reports of the public health department of San Francisco, I note that for two years in which complete records were kept the mortality was 10.6 per cent. in simple diphtheria, while in the cases in which the microscope also revealed staphylococci or streptococci the mortality rate was 16.9 per cent.

In laryngeal diphtheria our main diagnostic guide is the clinical course of the disease, characterized by symptoms referable to the larynx, viz., a characteristic cough, hoarseness and symptoms of stenosis. These cases cannot so easily be mistaken for other conditions, certainly not as frequently as simple tonsillitis and diphtheria are mistaken one for the other. The statistics of laryngeal diphtheria therefore appear to me more convincing than those of the faucial variety. Among the cases reported as faucial or tonsillar diphtheria are included, as we have seen, many cases which formerly went on record as simple tonsillitis. That this accounts partly for the reduction in the mortality of diphtheria is evident, yet it does not make as great a difference as the increase in the number of cases reported would indicate. In Boston, where the disease was classified into positive and negative cases, according as a bacteriological diagnosis had been made or not, the death rate in the former was 9.4 per cent., in the latter 10.4 per cent.

Statistics uniformly show an almost marvelous reduction in the mortality of the laryngeal cases of diphtheria. This disease has in fact been so modified by the serum treatment that it is now almost within our control. Not only has the mortality been lowered but the necessity for operative interference has been materially lessened. In the pre-antitoxin period about 90 per cent. of laryngeal cases required intuba-

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tion, compared to 35 per cent. since the introduction of antitoxin.

In considering the advances made in the treatment of diphtheria in the last ten years, the relief of laryngeal stenosis through intubation should be accredited with part of the success in the management of this disease. In many neglected cases not seen by the physician until the larynx is involved and also in primary laryngeal cases intubation often becomes necessary to relieve the stenosis and to avert impending death until the effect of the antitoxin can be obtained. O'Dwyer introduced this brilliant surgical procedure in 1885, but its employment did not become general for several years; in fact the physicians of Europe have only in the last few years taken it up, and even now there is a preponderance of tracheotomy over intubation. After the value of intubation became recognized the mortality in "membranous croup" was lowered from 90 to about 65 per cent. Since intubation has been supplemented by antitoxin the death rate has been so lowered that the former percentage of recoveries, 10 to 15 per cent., now almost represents the death rate. As a consequence statistics no longer note the number of recoveries as heretofore, but now record the percentage of deaths. A remedy with such results may almost be considered specific, and we cannot fail to see in it one of the greatest contributions to medical science and a triumph for bacteriological research. The antagonists of the serum therapy, of which there were many, have diminished rapidly, until today it is practiced almost universally. In most of the health reports the mortality in laryngeal cases is still over 20 per cent., St. Louis showing a mortality rate of 28.26 per cent. in 322 cases, and the last report of the American Pediatric Society 27.2 per cent. in 1704 cases. Private statistics of such reliable men as Rosenthal of Philadelphia, Shurly of Detroit, and others, show much better results, the former 13.33 per cent. of 100 cases, and Shurly 16.1 per cent. of over 100 cases. The high rate of mortality in the laryngeal cases can, I believe, be attributed principally to the fact that many of these cases are neglected until after stenosis has taken place and the children have lost their power of resistance. This is especially true in the primary laryngeal

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affections. The only children whom I lost in the last year of diphtheria were three cases of this kind, all of whom were in a moribund condition when first seen. Only one of these revived sufficiently after the intubation to be given an opportunity for a second dose of antitoxin. The disease had run on for eight days before being seen by a physician, and although entirely relieved of stenosis by the tube, death followed in twenty-four hours from general exhaustion. Another case, similar to this one, is worthy of a brief report, as it illustrates the value of intubation in connection with the serum therapy.

In August, 1901, a girl of 5 years was seen in consultation. The child had been sick with a "cold," as the mother said, for six days, "which had just in the last few hours extended to the lungs." When the attending physician saw the child all evidences of laryngeal diphtheria were present, and he urged an immediate operation. When I saw the child both tonsils were covered with a diphtheritic membrane. The child was breathing with great difficulty, retraction of the supra-sternal region and the ribs on inspiration being marked. The face was cyanotic. As soon as the tube was inserted she became easy, cyanosis disappeared, and after an injection of 2000 units of antitoxin she passed into an easy sleep which lasted for four hours. As the faucial membrane showed no change in ten hours, I repeated the injection of 2000 units of antitoxin. In the meanwhile stimulation with whisky and strychnin was resorted to. Five hours after the second injection breathing suddenly became obstructed and the child again became cyanosed. Removal of the tube revealed partial plugging of its lumen. A few moments later the child, in a paroxysm of coughing, expectorated bronchial casts of the diphtheritic membrane. Although breathing seemed easy, the tube was reinserted. This child made a good recovery, the tube being removed on the fifth day.

In the matter of dosage I am guided by the recommendation of the committee of the American Pediatric Society which investigated the subject of diphtheria and antitoxin treatment. I quote from their report as follows: "All cases of laryngeal diphtheria, the patient being 2 years old or over, should receive—first dose, 2000 units at the earliest possible moment; second dose, 2000 units twelve to eighteen hours after the first, if there is no improvement in the symptoms; third dose, 2000 units twenty-four hours after the second

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dose, if there is no improvement in the symptoms. Patients under 2 years of age should receive 1000 to 1500 units, the dose to be repeated as above." The tendency in the last year has been to give larger doses. While I have frequently given injections of 3000 and 4000 units in children under seven, I believe that the repetition of the dose at shorter intervals is of greater importance than the use of larger doses. It is bad policy to procrastinate with the repetition of the dose if improvement is not noticed in about ten hours.

One of the greatest obstacles to the success of the serum therapy in the beginning was the opposition of the laity to its use, and a certain amount of timidity on the part of the physicians in persisting in its employment. Although this has been overcome as the people have gradually become educated up to the good of the remedy, I believe that there is still much laxity in regard to a repetition of the dose, partially on account of the additional expense each injection incurs, and partly on account of insufficient faith of the physician in the efficacy of the second dose.

There has been so much written about the preparation of the diphtheritic serum, the computation of its units of strength and the manner of its employment, that these details are familiar to every physician. The point of greatest obscurity today in connection with diphtheria is the difference between individuals in their susceptibility to the disease. Neisser, Wasserman and others have shown that the blood of the majority of individuals, including those who have never had diphtheria, contains a certain amount of antitoxin which protects the body to a greater or less extent against the invasion of the diphtheria bacillus. As the blood of the newborn is free of antitoxin, this immunity is believed to be an acquired condition, either naturally or artificially. It increases with the age of the individual, which accounts for the lessened susceptibility or almost complete immunity in adult life.

It is now a unitarian view among bacteriologists that the so-called pseudo-diphtheria bacillus is identical with the Klebs-Loeffler bacillus. Behring has recently advocated a new theory regarding the natural acquisition of immunity to diphtheria, in that the pseudo-diphtheria bacillus, or in other words, the

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non-virulent Klebs-Loeffler bacillus while residing on the mucous membrane not only produces toxins, but also antitoxin in certain proportions. He believes that the non-virulent bacillus which is universally distributed and may be harbored on the mucous membrane of any individual, is continually producing antitoxin which finds its way into the circulation. By this continuous action and the absorption of bacterial products, an insusceptibility results which is more prolonged or continuous than the immunity following an attack of diphtheria. The latter, though more absolute, has a limited time. Contrary to most infectious diseases, the period of immunity following an attack of diphtheria is very short, the protecting bodies being rapidly eliminated from the system. It has been variously placed at three to twelve weeks. Relative to this question, Prof. Karl Fraenkel of Halle states in a recent letter that immunity after an attack of diphtheria and also after the injection of antitoxin lasts from four to six weeks. The immunity artificially acquired through the introduction of antitoxin into the system can, by increasing the serum according to demand, be made more absolute though not more lasting than the natural form. The view is now largely accepted that antitoxin acts by stimulating the tissue cells, establishing in them a tolerance of the toxins. Although it has this same action at all stages of the disease, its therapeutic value is greatest at its onset. Statistics show that the lowest death rate in diphtheria occurs in those children who are injected on the first day of the disease, and that with every day of delay there is an increase in the mortality rate.

Very excellent results have also been reported from antitoxin as a preventive measure. Behring reported 100,000 cases in which the serum treatment was employed as a preventive, of which only ten developed diphtheria, although many of the children had been exposed to the infection. The New York State Board of Health has on record 160,000 cases in which antitoxin was used as a prophylactic measure, among which 79 cases of diphtheria developed, mostly of a mild type. This observation has led to the adoption of prophylactic injections as a precautionary measure in many hospitals and orphan asylums during the prevalence of epi-

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demics of diphtheria. After the disease has developed the cells are weakened by the prolonged toxic action and cease to respond with the same activity to the action of the antitoxin. Notwithstanding this, statistics show that even in neglected cases when injected late the mortality rate has been lowered by the use of the serum therapy. In doubtful cases it is, I believe, poor policy to postpone treatment in order to be able to confirm the diagnosis. Treatment should be resorted to at once, as the observation of the leading authorities on diphtheria has been that the serum is innocuous even when used in large doses.

Post-diphtheritic paralyses, albuminuria, edema of the joints and other sequelæ of diphtheria have, especially by the laity, been attributed to the remedy employed instead of the diphtheria poison which causes them. It may be that the absolute number of post-diphtheritic paralyses is greater than formerly, but this can easily be accounted for in the greater number of recoveries than formerly. Referring to this point, McFarland very correctly says that "the paralyses following the use of antitoxin are due to the agent only in so far as it saves the patient's life."

The health boards of our larger cities have in the last years prepared their own diphtheritic serum for distribution among the poor. Otherwise we obtain it from the large manufacturing pharmacists. While I believe that we cannot go amiss in employing the product of such firms as Mulford, Stearns and Parke, Davis & Co., whose reputations are dependent upon the efficacy of their product, I believe that there should be some standard of excellence, and that all serums dispensed should conform to that standard. Dr. Edwin Rosenthal of Philadelphia, who has done much excellent work in the study of diphtheria, suggested such a plan to the American Medical Association in 1900. His idea was the appointment of a pharmaceutical committee which should define a "unit" of antitoxin and give a standard of strength of the toxin at a certain age—stating its minimum and maximum fatal dose. Personally I have used the serum manufactured by the firms mentioned apparently with equal success.

Before closing I would add a word as to other treatment,

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for I believe that since the employment of antitoxin has become universal other important measures are not given the place which they deserve. A brisk calomel purge to empty the alimentary tract, local antiseptic solutions (Loeffler's and others) in faucial cases, steam inhalations in laryngeal cases and heart stimulants to meet indications, are indispensable auxiliaries to the treatment of diphtheria.

427 W. Chestnut street.

THE PREVENTION OF TUBERCULOSIS.*

BY ROBERT W. TATE, M.D.

BOLIVAR, TENN.

In the last few years great advancement has been made in the study of tuberculosis, and in no department of study has this advancement been more noticeable than in that of prevention. In prevention we have the surest means of combating this great scourge that has for years killed its thousands despite the use of the best treatment after the disease is well established.

The best way to popularize preventive measures and thereby lessen the spread of tuberculosis, seems to me to be within three channels, viz.: by legislation, education and individual prophylaxis. These three being so closely related it is hard to separate them; however, for convenience, let us first consider what may be done by legislation.

1. Prohibiting marriage of consumptives and of those predisposed to it.

This can be done. Let each marriage certificate have a clause to be filled in by a reputable physician who is able to make an oath in the negative as to existence of or predisposition to tuberculosis in the contracting parties.

There is no locality so thickly or sparsely settled that does not contain a physician who can not answer these questions satisfactorily. In case this negative answer cannot be obtained the certificate should not be issued. Again, what young man or woman, if made to understand the infectious nature of tuberculosis and the liability of contracting the disease from

* Read before West Tenn. Med. & Surg. Assn. at Jackson, May 22, 1902.

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the one who has it, would marry? Realizing the obstinacy and persistency in such cases I hardly believe these temporary traits of character would overbalance that of reason.

2. Public houses and conveyances of all kinds, viz., hotels, opera houses, court houses, schools, churches, workshops, railroad and street cars, should have printed State sanitary regulations posted conspicuously, with a penalty attached.

Let this be written in plain, simple language, avoiding all technicalities, setting forth the infectious nature of tuberculosis and requiring spittoons containing a germicidal solution, so arranged as to be in easy access to all present. The managers or superintendents of these houses or conveyances should be responsible persons.

3. The education of children in the schools throughout the State in elementary prophylaxis.

Why does it seem to a boy more immodest and unmanly to urinate or defecate on the floor of the school room than to expectorate? Because he has never been taught that expectoration is as filthy and more liable to carry with it the pathological organisms of disease than the other two.

The State textbooks on physiology and hygiene have articles written in clear, simple language on tobacco, opium and a few other narcotics, and to have such an article devoted to the prevention of tuberculosis would have better results than either of the others.

It is doubtful, the good done teaching the physiological and pathological action of these drugs, but to tell a boy or girl of inhaling sputa after it has been dried and mixed with the dust and of the possibility of contracting consumption by close proximity to consumptives, tubercular abscesses, etc., would instill into their minds caution that would last them through life. If our legislators had received such instruction in their younger days, how much more readily would they pass laws regulating the spread of tuberculosis.

4. The prohibition of the sale of alcohol.

That alcohol prevents or cures tuberculosis is a relic of former days and belongs to the period in medicine when cold water was not given or used in cases of fever, and bleeding was the remedy for all diseases regardless of pathology.

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"That alcoholism is one of the greatest direct and indirect causes that prepare the field for the tubercle bacilli, is now generally conceded, not only by physicians and sanitarians, but also by all sociologists who have studied the question.

"It is not only a phthisiogenetic disease par excellence in adult life, but, according to statistics carefully kept in some of the European hospitals for scrofulous children, in more than 50 per cent. of the cases either the father or mother or both, were found to be, or to have been, alcoholics.

"To combat alcoholism must be the work of the statesman and sanitarian. With the diminution of the consumption of alcohol there will be a corresponding reduction in the mortality from pulmonary tuberculosis."

Dr. Hector Mackenzie declares in a recent article that, "Alcoholism must be regarded as a powerful predisposing cause of tuberculosis.

"It is almost invariable to find tuberculosis present in the lungs of patients dying in the course of alcoholic paralysis.

"Alcoholic subjects appear to be especially liable to acute miliary tuberculosis."

From Prof. Thomas Oliver, in his Textbook of Medicine:

"Nor is there any truth in the opinion held by the laity, that the use of alcohol protects the individual against tuberculous disease. I do not refer to such a restrictive employment of alcohol as a glass of beer or stout, or a little wine at dinner time. That may be helpful to the individual. It is to the mistaken opinion that where there is a family predisposition to the disease it is necessary to be somewhat more indulgent."

In my own experience with young men with a hereditary tendency to phthisis, alcohol has, by the late hours which it encourages and the careless and irregular habits that it fosters, frequently precipitated the individual into active tuberculous disease, which abstinence and careful living assuredly would have prevented. It indirectly favors the development of tuberculous disease.

Pulmonary tuberculosis was found by Dickerson to be more frequent in drinkers than in ordinary people, in the proportion of three to one.

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Rolleston, quoting Mackenzie, states that "in 67 cases of pulmonary tuberculosis occurring in drinkers a family history of tuberculosis was found only in 10, whereas it is found in about 309 of the ordinary cases.

"The frequent association of pulmonary tuberculosis with alcoholic peripheral neuritis, and its presence, too, in nearly one-third of the cases of cirrhosis of the liver, are circumstances which show that under the debilitating influence of alcohol resistance is reduced, ordinary pulmonary catarrhs are not so quickly thrown off, and thus the bacillus of tuberculosis gains an easier entrance."

As an example of the ill effects of alcohol and its relation to causing tuberculosis let us, just for a moment, consider the difference between the negro now and before his emancipation.

During slavery times they were considered free and exempt from all tuberculous diseases. They were given a sufficiency of food and slept at night in well made houses and were not allowed to drink whisky or spend their nights in roaming over the country. The best medical attention was given them and they were nursed carefully during their sickness.

Since that time tuberculosis has played havoc with the race. In what class of people do we find instances of acute phthisis and other acute tubercular affections more frequent than in the negro? The cause being that there has been the ever over-indulgence in alcohol with its accompanying total disregard to hygienic living that has made them easy prey to the tubercle bacilli.

Surely there is no physician of the present day who believes alcohol in any of its forms cures or prevents tuberculosis.

5. The disinfection of all houses or rooms in which consumptives have lived and moved away or in which they died.

No one doubts the advisability of such a procedure, and the only way that it can be done is by means of a State law to be executed by the local county board of health.

The disinfection of rooms and houses is becoming so common that it is practicable and easily carried out by those who are not experts.

6. Regulations in regard to the burial of those who have died of tuberculosis.

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It has been proven that earth worms are capable of ingesting and ejecting tubercle bacilli without the organisms losing their virulence, also it has been shown that the bacilli resist putrefaction for several years and have shown virulence after being buried two years.

The best way of disposing of these bodies is by cremation, but our people have not become accustomed to this, and I doubt that such a law could be passed. However, the dissection of such bodies should be prohibited.

7. The extermination by the State authorities of animals with tuberculosis, paying a nominal sum to the owner.

That human tuberculosis is communicable to cattle is improbable, but it can be communicated to human beings from cattle. Not so much through the meat, but in the milk, and this is the side of the question that is of special interest to physicians.

The recognition of the disease is made easy by the use of tuberculin, which should be furnished by the State and used by a local live stock inspector for each county, who is under the supervision of the State live stock inspector.

This is a question that will have to be settled after considerable trial, but under the present statute we have no protection.

The adoption of measures against tuberculous cattle has been in effect for some time in the cities, but if made a State law, the village and country people would get benefits which at this time they do not receive.

What can be gained by education?

At two meetings of this association we had the pleasure of hearing Rev. W. D. Powell talk of the public view held in certain parts of Mexico, a country far behind ours in civilization, in regard to persons suffering with consumption; how consumptives were treated as if suffering from a contagious disease; and of the natives caring less for such a disease as smallpox than they did for tuberculosis.

He drew the comparison in more impressive language than I can, and I know you remember the special points he made in his talk. These natives, ignorant about all things, apparently, had by education for years learned to shun close communion with consumptives, not using the same drinking ves-

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sels nor eating with the same knife and fork as their consumptive guest.

I have spoken of means by which children can be instructed through legislation, and will repeat that if one in his youth is taught the infectious nature of tuberculosis, how much easier it is to have laws passed governing the same when he becomes a legislator.

The physician's position is a trying one, for he is the teacher in many instances, and he should never hesitate to tell his tubercular patients of the existence of the disease and of its being curable; also of its infectious nature. After receiving the above information it would not be difficult to further instruct him, telling of the presence of the bacilli in the sputa and excretions and the liability of infecting others, also how to destroy the bacilli, showing him that by so doing he helps to bring about his own cure and saves others from the disease.

In nearly all countries there are societies whose members are physicians and laymen; their object being the prevention of tuberculosis.

For example, there is the Pennsylvania Society for the Prevention of Tuberculosis that is doing much good educating the people in prophylaxis and cure of tuberculosis. The members contribute essays that are distributed throughout the country free. Would it be possible to inaugurate such a society in Tennessee?

The infective agent of tuberculosis being the bacillus, efforts should be directed against it.

The source of the bacillus is from the human being by means, practically, of the sputa and cough spray. Also from the domestic animals through their meat and milk.

We should instruct our patients to cough into either cloth or paper handkerchiefs, destroying them after use, and to expectorate into spittoons, if portable to be made of paper with a lid, if stationary to contain a solution of bichloride of mercury 1–1000. Then if tubercular animals are destroyed, we will better be able to handle this dreaded disease.

We always instruct those nursing typhoid fever of its infectious nature, and of the means at our command of preventing its spread; why not do the same in tuberculosis?

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In order for tuberculosis to make inroads into the human organism there must be present not only the bacilli but suitable conditions for its growth, either an inherited or acquired predisposition on the part of the individual.

The part attributed to heredity about which a great deal is now written, has not the magnitude as in former times.

The direct transmission of the germ from the parent to the offspring, while not denied, has been shown to be of extreme rarity. That an inherited predisposition exists is popularly accepted as a fact, but this is denied by able observers who prove that offsprings of tubercular parents have a relative immunity to tuberculosis, and if contracted they resist the destructive processes of the disease a longer time than those who have no tubercular ancestors, treatment and environments being the same.

One observer in a very comprehensive article in the *Journal of Tuberculosis* on "Immunity Against Heredity in Tuberculosis" shows very forcibly the fallacies in the theory of hereditary transmission.

What can be done by individual prophylaxis? A great deal can be accomplished.

The prospective young mother who has a tendency to tuberculosis should improve her general health by hygienic measures. She should discard the corset at once, and all articles of clothing that tend to restrict respiration. She should live in the open air as much as possible, and take daily a bath of cold water. If she goes out in the evening she should avoid crowded assemblies, in fact all things calculated to lower her own as well as the vitality of her offspring.

When the newborn child has survived the month following its birth, and the mother has tuberculosis, her physician should inform her of the existence of the same and the importance of not nursing her child, owing to the drain caused upon her own system. Such a thing as separation of the two would be almost impossible, but a few words of caution and explanation as to the characteristics of the disease would be followed by good results in the child.

The child should receive its daily sun bath, having all clothing removed and be allowed to play in the sun for a short

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time, and when possible remain out of doors as long as circumstances will allow. It should have a cold bath or sponging daily, especially through the debilitating stage of dentition.

A child will become accustomed to cold baths as easily as adults, and it is a most excellent procedure. It causes them to increase the depth of their breathing, besides invigorates and strengthens their nervous system; also makes them less liable to contract colds which predispose to catarrhal conditions of the mucous membranes, viz., naso-pharyngitis and bronchial affections, with their accompanying enlarged tonsils and adenoid vegetations. It has a decided influence in preventing cholera infantum and summer diarrhea; so much value is attributed to cold baths in these diseases that some treat them by application of cold water to the abdomen.

After the child has become old enough to attend school—some are ready at six, others not until ten years old—the diseases incident to childhood should receive careful management namely, whooping cough, measles, scarlet fever and influenza, all of which leave a lowered vital resistance, making the soil suitable for the invasion of the tubercular bacilli. It is now that impressions should be made upon their minds of the infectiousness of tuberculosis and of the importance of the proper exercise in the open air.

They should not be confined in a small space, but given and encouraged to take ample time for play.

After arriving at the age of adolescence they should be instructed by the teacher in exercises increasing the capacity of the chest, and allowed to indulge in out of door sports, but stopping always before extreme fatigue.

The parents should watch carefully for any alteration in the general health at any time, especially for anemia, anorexia constipation and amenorrhea.

Nights spent in reveling, dancing and the like, at which girls go half clad in the most unhygienic dress, and after becoming warm, imprudently get into an open window to be refreshed, and indulging in strong drink and cigarette smoking by boys, are certainly detrimental to their health, especially to those predisposed to consumption, and should be prohibited by the parents.

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When the age of young adult life is reached, the age of tuberculosis, they should be advised as to the choice of occupation.

Those with an inherited predisposition, especially, should avoid overwork in the shops and factories where the air is imperfect and impregnated with particles of dust, cotton fibre and iron filings, depending upon the nature of the material to be manufactured, which makes them liable to catarrhal conditions of the respiratory tract and diminishes clear, free breathing.

The advisability of this class changing climate is a disputed point, but only a few of those blessed with means can travel, the greater number having to remain at home. But much can be done at home.

The occupation most suitable for young people of this class is one requiring out of door work. After remaining out of doors all day breathing pure, fresh air, the greatest majority of people believe that the night air is specially dangerous and laden with diseases, and when they lie down for sleep, close all sources of entrance of fresh air. The air in the room becomes laden with foul odors from the body and carbonic acid gas, causing sleep to be disturbed by bad dreams and wakefulness.

It is of utmost importance to this class of people to breathe fresh air during sleep, and they should be so instructed; however, in the negro this will be the last order of the physician to be followed.

The farm in our section of the country is the most popular occupation requiring out of door life, and yet it is frequently the case that farmers have consumption. Why is this so? In the first place they are very imprudent, never caring for the weather, and rarely taking the slightest precaution to protect themselves against the cold and wet. And again, many farmers suffer with indigestion caused by overindulgence in whiskey and tobacco and bad cooking.

And what class of people are more easily taken in by the quack doctor, the almanac, the advertising cures and patent medicines than the farmer?

In nearly every instance, believing they have inherited con-

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sumption, they are on the alert to diagnose the first symptom as consumption, and when they have the slightest cough they will answer an advertisement and take the mixtures sent just long enough to cause dyspepsia, with its accompanying disorders of the alimentary tract, thereby hastening the onset of tuberculosis.

When they have tried the "celebrated doctor" of the great city without benefit, they come to the home physician with the disease too far advanced to respond to any treatment.

In winter their houses have the open wood fireplaces which keep the air pure in their sleeping room, but in summer this ventilator is in disuse, consequently, having closed all openings in their room, they become poisoned with air breathed over and over again by themselves and their families.

With precautions about exposure, ventilation of their sleeping rooms, more care in cooking and consulting their own physician for minor ills, I believe the open air life led by the farmer will tend to make them exempt from tuberculosis.

A MODERN HOSPITAL.*

BY G. G. BUFORD, M.D.
MEMPHIS.
Physician in Charge, Presbyterian Home Hospital.

OPERATING a modern hospital is the easiest thing in the world to those who have not tried it, but grows more complex the further one gets into its mysteries. I early learned that at the end of the first six months I knew far less about it than I thought I did before attempting it.

The modern hospital training school is the evolution of the ideal, and resulting as the legitimate offspring of the discoveries of bacteria, and which so signally marks the closing two decades of the nineteenth century. The up-to-date hospital resembles those institutions of the fifteenth, sixteenth, seventeenth and eighteenth centuries about as much as a prairie schooner does a Pullman palace car, or a guiericochet does an automobile, and demonstrates the fact that it requires more than huge brick walls to make a hospital.

* Read before Memphis and Shelby County Medical Society, August 5, 1902.

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Laudable pus is no longer tolerated, puerperal septicemia is a stigma on the care of the physician, traumatic erysipelas is seldom met, tetanus is a rare occurrence, and a hospital gangrene is only a ghost that disturbs the quietude of the shades of the past. These spectres haunt only the memories of earlier surgeons, and we know them now from their biographies, since we have all learned that it is wiser to prevent than to attempt to cure them.

The healing forces of most patients are usually adequate to care for the repair of a clean operation, by a clean surgeon, with a clean knife, in a clean room, with clean surroundings and clean dressings, and cared for by clean nurses. Then most operations will be successful where cleanliness is directed by a clear brain, well stored with a correct knowledge of anatomy and physiology, and the ever-present bacteria is not carried into the wound by the surgeon or nurse. Most non-surgical acute diseases will recover if we give them plenty of air, sunshine, proper nourishment, and do not kill with "specifics" and polypharmacy.

Then the prime requisite in successfully operating a hospital should be ability to execute the directions of attending physicians; and most of the time, cleanliness, proper diet, air and sunshine comprise the major ingredients in the prescription of the truly learned physician.

Beyond the esthetics and psychologics of hospitals, location plays a minor rôle, since the causes deleterious to hospital work are pathogenic bacteria, which are almost ubiquitous.

The administration departments proper of a modern hospital are two, viz.: 1st, dietary; 2d, nursing. The first of these naturally divides itself into two, feeding the administrative force, and feeding the sick. With efficient heads to these two departments, operating a hospital becomes purely a business enterprise, the chief object of which is to keep adjusted a proper balance between the credit and debit side of the ledger.

Thanks to the paleontologist who exhumed from the débris of Pompeii canned meats and fruits, we have been taught the art of preserving by canning, an art which for so many centuries was lost. This class of foods forms quite an item in

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the every day dietary of both executive force and inmates of a hospital. The preparation of foods is one among the *questio vexata* which have to be closely looked after.

We are a nation of dyspeptics, and each cook seems to thoroughly understand the art of perpetuating this condition, and resents any interference with her arrogated prerogative. That diabolical arrangement called a stomach, and which perhaps is the *fons et origo* of most human ills, is hard enough to deal with when on good behavior, but becomes incorrigible and implacable when its possessor has habitually violated every law of proper living. Most cooks know how to prepare salads, pastries, cakes and pies, but the very fewest understand the art of broiling a steak, baking a roast, or making a loaf of good, nutritious bread.

The present medical college and its product, the modern physician, are not entirely blameless for this deplorable condition, since hygiene and the art of scientific preparation of foods are entirely omitted from the curriculum of most schools. Physicians usually understand how to write a prescription for a gastritis, but few know how to order a dietary, and fewer still know when it is properly cooked, after theoretically being ordered. A monument awaits the Carnegie who will endow numerous schools of cooking in our cities, and the eternal gratitude of multitudes yet unborn will crown with laurels the memory of the physician who will write a plain, sensible work on every day preparation of foods, and pronounce an anathema on the whole genera of modern cook books.

The ignorance displayed in the preparation of daily food for the well is deplorable in the extreme, but when it comes to the proper conversion of pure raw material into appetizing, and at the same time assimilable viands for the sick, there are few adequate to the task.

There are then two separate departments here, each of which should have its separate head. The relationship between the physician and hospital caterer should be similar to that of physician and pharmacist, and his prescription for food should be as explicit to the one as the other. When we understand as thoroughly the amount of force and nutrition that each class of food, when properly prepared, is capable of giving

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up, and the capabilities of individualized stomachs for extracting this force, as we do the physiologic actions of different drugs, there will be less use for the synergists, pepsin, *etidgenera*. The pharmacist will not be able to re-fill as many prescriptions, but our patients will fare better, and their periods of typhoid fever will be shorter and there will be less use for intestinal antiseptics. To aid the physicians who have so generally patronized the Presbyterian Home Hospital, in having their diet order properly executed, I am having installed a small diet kitchen where the nurse can execute the orders of the doctor in the most approved manner. This will be ready by October 1, equipped with neat gas range and aluminum cooking utensils. The nurses will receive a special course in this department after this session. Knowing how to purchase, what to purchase, and in what quantities to purchase, are facts learned only from long experience, and belong properly to the province of the matron or housekeeper. The economic relationship between this department and the contents of the purse is one that demands close scrutiny, and eternal vigilance is demanded to keep them on speaking terms.

Nursing. The trained nurse is comparatively a modern innovation, but like many of our other concomitants of the nineteenth and twentieth century luxuries, has come to stay. Mark Twain facetiously tells us "that money and women are mighty good things to have about the house;" the sick man readily admits that a pretty nurse is quite essential, and the physician attending acquiesces that money is indispensable. An efficient head nurse lessens materially the operator's burdens. She should be capable of commanding the respect of the sub-nurses, and also of instructing them. She should strictly be held responsible for the execution of all orders, and any complaint of derelictions should reach the offending nurse through her and not indirectly. To properly fill the position demands tact to govern and control, as well as instruct. Without these qualities she cannot have the active coöperation of those under her control, consequently there are breaches of confidence and mechanically performed duties. She must be *suavite in modo*, but *fortiter in re*. She must be able to enter into the cares of both patient and nurses, willing to listen to their troubles, and counsel in their love affairs.

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The two prominent points that are to be ever kept in the foreground with nurses are surgical cleanliness and silence. A nurse should never be allowed to discuss with a patient other patients, nor other than the attending physician, and then, to at all times speak of him in only complimentary terms. Good nursing is of paramount importance to both patient and attending physician.

The servant problem is one that usually has to be readjusted so often that it is hard to keep up with or treat its kaleidoscopic and every-varying features. Here as in all other business transactions, I have found it better to pay liberal wages, pay them promptly, trust them implicitly—at the same time watch them with both eyes—and to exact good work from each in his or her department. The breakage, loss and chipping of chinaware and general tableware is large, and is a leakage that is hard to discover a means of remedying.

In moderate-sized hospitals the solution of the laundry question is not difficult with the proximity of the modern laundry.

The training school for nurses is quite an economic factor in operating a modern hospital. The proper selection of a nurse for training is very important. Age from eighteen to twenty-five is about the proper limit. Education, health and general fitness are factors in the general make-up of a prospective nurse which should receive close attention.

In selecting a nurse for the training school, I inquire closely into the above and into family history. The uterine functions should be closely investigated, and since the duties of a nurse are arduous, no one with any uterine or pelvis disease should be employed. It goes without saying that carpets and draperies have no place in a hospital. Patients often demand these, but are usually easily satisfied when the attending physician explains the matter.

Operating Room. The advice of Polonius applies to operating room, as well as to the dress; it should be neat, clean, and as costly as the purse will buy, with everything in it aseptible and placed under the charge of one nurse who is held responsible for the room and its entire contents. Operating a modern hospital where there are unlimited means is an easy matter,

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but quite another condition when the reverse is the case. Thanks to the liberal patronage of my medical friends I have to date been able to keep the balance on the right side of the ledger.

Hospital work is a subject about which I have read much and thought more within the last eighteen months. Like other branches of business it has many phases, each of which is modified by conditions. I know nothing of operating a charity hospital. The result to be desired and attempted to attain is the welfare of the patients, the reputation and monetary remuneration of the physician.

The unendowed institution which nearest approaches the ideal in these two directions is what is known as the joint stock, or coöperative hospital. The objection urged against this is that the stockholders have almost a trust on the practice of medicine in the city and use the monopoly to the detriment of the non-stockholders. This is not valid to those in the trust. While the discussion of this phase of the subject is hardly germane to the subject assigned and may seem irrelevant, with the permission of the president and indulgence of the society, I will briefly outline the plan and scope of such an organization.

1. The stockholders or physicians who own and operate it, electing from the stockholders a board of directors, or regents, who are to attend to every phase of the business and serve without salaries. The hospital is operated by physicians for the benefit of themselves and patients without interference of churches, societies or politics.

2. The size of coöperative hospitals is limited by amount of stock and number of shares sold. Stock is usually of $100 and sold to physicians at 20 per cent. cash, balance on monthly payments, notes being executed for deferred payments, and said notes of a negotiable kind. There is also usually a coöperative drug and instrument store in connection. Shares in this are usually $10 for each $100 worth of hospital stock. This enables the physicians to procure drugs cheaper and confine their prescriptions within their own proprietorship, thus securing many dollars that jingle the till of the druggist from refilling prescriptions and counter-prescribing.

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One interesting feature of a coöperative hospital is the collection department, which obviates the perambulating collectors. All accounts are paid to one party at the office and the books are so kept that the accounts of each physician are separate and each physician can learn of all of the deadheads carried by every other physician.

DIET IN FEVERS.*

BY J. W. MIRES, M.D.
HAYNES, ARK.

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THE subject is too voluminous to be thoroughly discussed during the short period of time that is supposed to be appropriated to my use this afternoon, and I shall attempt to indicate to you only a few of the things I *do not* believe concerning the feeding of fever patients.

. . . . . .

Forty to fifty years ago, when every doctor, with every patient, for every disease, practiced venesection and prescribed an emetic and calomel to produce ptyalism, he also barred water in fevers and directed a diet little better than boiling the shadow of a chicken, which he called chicken broth, and fed sparingly without salt or other condiment.

In those days there is no doubt but many patients were starved to death after the fever was broken, and as the doctrine of feeding patients dawned upon their minds, the old practitioners readily made acknowledgment.

There is no such thing as standstill in all this universe, and about 1870 a new doctrine in feeding became the fad. Thinkers began to say that we have the horse behind the cart. It is not the quantity that hurts but the quality, and out of this grew the cramming habit of the present day practitioners.

Doctors then began to select certain articles of diet because they were more easily digested, and, as they argued, more readily assimilated. Another step was to select a food which contained the greatest per cent. of nourishment, and lastly

* Extracts from an address delivered before Lee County Medical Association at Marianna, Ark., May 5, 1902.

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and recently to ascertain how much nourishment it is possible to inject into a sinking patient. Thus, like the pendulum of the clock, we have gone from one extreme to the other—we have oscillated from starvation to stuffing.

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I have known a child, marasmic and apparently dying of summer diarrhea, get its hand into a cellar of salt and at once fill its mouth with the salt, which it swallowed, and to the surprise of the parents, and as well the doctor in charge—like the centurion's servant at Capernaum—the child was healed from that self-same hour. Now, I do not believe for a moment that it was the dietetic or nourishing constituents of the salt that saved the child, or that amount of salt was assimilated and became a part and parcel of the tissues of the body, but I do believe that it was dissolved and intricately mixed in the fluids of the body, and that the child was cured by the antiseptic properties of the chloride of sodium. I would rather have one teaspoonful of a good antiseptic medicine in the stomach of a fever patient than to have a pint of sweet milk. To my mind fever is a chemical action or combustion of *materies morbi* in the system, and is nature's great effort to rid the system of the cause of the disease by burning the poisonous materials.

As a result of this combustion we find every secretion of the body locked, not even excepting those engaged in the digestion of the aliment which may be crammed into the stomach under its protest.

Then, if the secretions are locked in fever, we must have a perverted nutrition, or what might be a better expression, no nutrition, because we have a perverted assimilation, or still better, no assimilation, because we have a perverted digestion.

If we have no digestion, we have no assimilation; if we have no assimilation, we have no nutrition. If this proposition be true, and yet we go on feeding our fever patients, what is the harm? some one asks.

To this I answer, that all nourishment injected into the alimentary tract, which is not digested and assimilated, becomes decomposed, rotten food, and generates more poison. If there is a slight assimilation of the nourishment, then there must

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be an absorption of the morbid materials generated by the decomposition and rotting of indigested food, and this increases and continues the fever, increases the *materies morbi* with which the system is already loaded down.

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I have recently seen a case of a man considered moribund for whom a physician prescribed alcoholic stimulants and two eggs every two hours. A novice in mental arithmetic could figure this to mean twenty-four eggs in twenty-four hours, and a tyro in hygiene would tell you that no stout and healthy man could remain stout and healthy many days and eat twenty-four eggs every twenty-four hours. In this case the man did not eat the eggs; the stomach revolted, and in thirty-six hours he was dead. The presumption is that had he eaten the eggs he would have died sooner. The treatment should have been, instead of the eggs, antiseptics, with plenty of water, to which was added a liberal supply of chloride of sodium, both by the mouth and rectum, and if nourishment at all, in very sparing quantities.

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Some years ago I knew of a case of an old woman vomiting for weeks, notwithstanding her physician said that he had given her everything he ever heard or thought of, and tried everything suggested by every old woman in the community, and that he hoped she would die, for she surely would die, and the sooner the better for all concerned. One day when she was in great agony she asked for buttermilk; a nurse carried her a glassful, she drank it all, laid her head on the pillow and in a few minutes was asleep. After this she took no more medicine, and vomited no more. I do not believe that it was the nourishment in the buttermilk that cured the old woman, but I do believe that it was an alkaline condition of the system neutralized by the lactic acid.

Nutrition is a physical action, while medication is a therapeutic or chemical action. In the case above mentioned it was not the physical but the medical action of the buttermilk, and it would have acted equally well had all the food products been extracted and separated from the acid before giving it. After the medical action a desire for food would have come;

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this would have indicated that digestion had set up, ready for business at the old stand, and then would have been the proper time to feed the patient.

I do not believe that any man can put a fever patient under a five minutes' course of examination by interrogation, inspection, palpation, auscultation and percussion, and know if the quantity and quality of the digestive ferments in the alimentary tract are sufficient to digest, ready for assimilation, any given amount of nourishment that may be injected therein.

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In sickness every part of the physical man is weakened, and what would be thought of a doctor who would tell his fever patient that in order to keep up a good circulation, regulate the heart's action and move the bowels, he must go into the cotton field or garden and work? Yet it would be just as rational, just as wise, in a grave case of fever, as to tell him that he must eat a full meal. He could not do the work, and if he were to eat the meal he could not digest it, and would be the worse for having eaten it, for each—the work in the garden and the labor in digesting the food—is a purely physical exertion, and neither can be done.

But, says some one, when we feed fever patients, we do not give them a full meal. Then, I ask, how would it do, instead of sending the man to the garden to work, to get him out of bed and march him quietly around the room a few minutes at the end of third hour?

I repeat that they are each a physical action, and that in case of a fever a physical action can not be converted into or produce a therapeutic action. They are not interchangeable one for the other.

But, says another, in these grave cases of typhoid fever, lasting six, eight and ten weeks, if we did not feed the patient he would starve to death, and certainly a part of the nourishment we give is assimilated. To this I say that the amount of food left over after the *very small* amount digested has been assimilated is a source of irritation, and in this way the combustion goes on, and by it the fever continues.

This is not a case where feeding saves a ten-weeks' fever, but a case where feeding produces a ten-weeks' fever. The

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connective tissue of the body is loaded and the muscles are covered with fat. During health this fat is not in action as are the muscles, nerves and internal organs; hence, there is no waste of fat going on as in the other parts. This fat rests as in a reservoir—is held in reserve, ready to be used as a nourishment in case of sickness or from any cause the man is unable to supply the waste by nourishment from without.

If a man is well and fails to take nourishment by reason of the exercise he takes, the waste is greater, and the demand on the fats to supply this waste is greater, and he will starve to death sooner than he would in sickness, when the whole body is at rest.

So I say be not alarmed about your fever patient starving, for if properly treated the fever will leave, or in an exceedingly and exceptionally grave case he will die before he starves. A person is not necessarily nourished because he takes food into the stomach. I have seen infants starve to death while being regularly fed, when, I have no doubt, they would have lived had the food been withheld for a short time till the digestive apparatus could have been treated.

How often have I heard the remark made by doctors, in these grave cases, that the patient did not need much medicine —"give him plenty of nourishment, and he will pull through." To such I will say that under such treatment you have a case of fever likely to last indefinitely.

We speak of the doctors of an hundred years ago as though they occupied a niche in history slightly above that of the heathen, but I am not so sure but that their old castiron rule of "feed a cold and starve a fever" was more rational and physiological than the cramming practice of today.

My interlocutor comes to the front again and says, "This you consider a theoretical reason for non-feeding of fever patients; can this be practically proven?"

In this community, outside of Marianna, I presume there are eight or ten negroes to one white person. From this one should expect to find eight or ten cases of low and continued fever among the blacks to one among the whites, yet every practitioner knows that such is not the case, and my observation has been that there are more cases among the one-tenth

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or white, than there are among the nine-tenths or black population, while at the same time the habits, environments and sanitary conditions are very much against the brother in black. We cannot account for the absence of typhoid fever among them on the ground that they are immunes, because they do have the fever with all the other symptoms, and occasionally one lies in a cabin with it for weeks without treatment and finally dies, but where they have the proper attention and treatment they get well, and in much shorter time than do the whites. Now for the practical application. White people are educated on the subject of diet by their doctors and the doctors do so much feeding, and they grow so accustomed to receive instructions from the doctors as to what, how and when to feed, that if he prepares to leave the house without such instruction, they invariably ask the question: "What shall I give him to eat?" The result is that if a white man gets the fever the doctor feeds him, and the neighbors—for fear he is neglected—bring in loads of rich gruels, which they call delicacies. The cramming goes on and the fever continues *sine die* as to cessation, and if the patient gets well it is through some pre-arranged plan in his creation, and in spite of the feeding *ad nauseam*.

When a doctor is leaving the house where there is a sick negro the nurse does not follow him to the door and ask what to feed him; the doctor knows that the negro has got nothing to eat, or if he has something, there is no capable nurse to administer it agreeably to the doctrines of the day, and goes away leaving the poor negro to starve. The result is that if properly treated, in from seven to fourteen days the fever is gone, and the patient returns to his diet and work.

We notice the same history and results among the poor white people, commonly called "poor white trash."

It is also noticeable that the more wealth a man has, when he gets the fever, the more he is fed, the longer his fever lasts and the larger is his doctor's bill, and to me it is a great wonder that a rich man ever does get well of an attack of typhoid fever.

As another practical application of the theory, I will say that in fifteen years I have not given a bill of fare to a single

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fever patient, and when I have had the exclusive control I have not had a case of ten, eight or six weeks' fever in all that fifteen years.

Some one asks, do not your patients die? Yes, bless you! The mistakes of my life have been many, and the path behind me is strewn with grinning skeletons. We must die; we are born to die. When a man gets sick he may die with or without the doctor, and when a man gets sick he sometimes gets well with or without the doctor; but when I see a man with typhoid fever being continually crammed and stuffed with nourishment, and yet he gets well, then I conclude that he gets well in spite of the doctor.

CANCER OF THE LARYNX OPERATED ON SUCCESSFULLY BY THE ENDO-LARYNGEAL ROUTE.*

BY DR. A. BONAIN,
BREST.

Translated from the *Revue Hebdomadaire de Laryngologie d' Otologie et de Rhinologie*, Vol. 23, No. 29, by Richmond McKinney, M.D., Memphis, Laryngologist to the East End Dispensary and to Presbyterian Hospital.

I MAY appear a little tardy in reporting here a case of cancer of the larynx operated by the endo-laryngeal route, but the case was so simple from the standpoint of the operation, and was so rapidly followed by complete recovery, that I could not resist the temptation to report it to you. In operating in this manner I had not expected a cure, I will confess, as if I had made a complete and decisive operation, but intervened for the purpose of obtaining rapid relief, and above all, to obtain a precise diagnosis by the aid of a histological examination. The recovery following the operation and the absence of any indication of recurrence almost two years afterward, naturally disinclined me from any further intervention by the external method.

Here is the case:

On July 19, 1900, I was summoned to Morlaix, by my confrères, Drs. Prouff and Descoings, to examine an Ursuline nun, aged 52 years, who had been suffering with her throat for

* Read before the French Society of Laryngology, May, 1902.

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several months. Deglutition was difficult and painful, this pain being reflected to the left ear. The general state was unsatisfactory: loss of appetite, depletion of the vital forces, pale complexion, cachexia. Phonation was good. There was neither cough nor expectoration. Moreover, auscultation of the chest did not reveal the least pulmonary lesion. The pharynx presented nothing in particular other than irregular conformation occasioned by a slight arching of the right half. No ganglion enlargement was appreciable.

Examination of the larynx disclosed a distinct lesion at the surface of the left arytenoid eminence, this being notably tumefied and giving issue to a small fleshy pimple, of a distinct redness in contrast with the surrounding pale mucous membrane. The tumefaction of this region did not permit distinguishing the condition of the corresponding ligamentum arytenoepiglottica. The remainder of the larynx appeared in excellent condition. The vocal cords had their customary aspect and normal mobility.

The age of the patient, her external habits, the absence of all pulmonary symptoms, the aspect of the laryngeal lesion, caused us immediately to suspect a neoplasm of a malignant nature. To have, in this connection, a certitude, and to be able following this to propose intervention by the external method, permitting, if possible, radical ablation of the neoplasm, I proposed to remove on the next day the portion of the arytenoid on which was implanted the fleshy pimple, promising the patient that she would afterward have marked diminution in the pain and difficulty in swallowing.

On July 20, after locally anesthetizing the larynx, I removed with an antero-posterior cutting forceps all that I could seize of the left arytenoid eminence above the corresponding vocal cord; this being done I was enabled to see that the ligamentum arytenoepiglottica was tumefied and of doubtful aspect. The patient herself had facilitated the operation, and I profited by this to remove in three cuts of the forceps all the ligament in the neighborhood of the epiglottis. Hemorrhage was insignificant, and promptly ceased entirely on the ingestion of ice water. The portion removed was about the size of an olive. The wound of operation presented an aspect deeply notched in the form of a V with apex below, extending from the arytenoid region to the left border of the epiglottis.

The treatment consecutive was as follows:

Absolute silence, liquid and semi-solid alimentation, and in deference to the idea of the moment, daily doses of chlorhydrate of quinin in solution in a little black coffee. In a few days all pain had disappeared and deglutition was easily accom-

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plished without the least inconvenience. I saw the patient again August 2; there existed no vocal trouble. The cicatrization of the wound of operation was almost complete. At the base, toward the apex of the V, at the site of the ligamentum arytenoepiglottica, a point appeared not to be cicatrized. The remainder of the larynx had a normal aspect, without the least trace of infiltration. The patient had gained in weight more than one kilogram. Her health was reëstablished, and not the least trouble existed from the point of view of the functions of deglutition and phonation. The chlorhydrate of quinin was continued during four months in daily doses of twenty-five centigrams, afterward being given at gradually increased intervals.

I examined her within the last fortnight, twenty-one months after the operation, and she was then actually enjoying good health. The larynx was in excellent condition, without the least trace of recurrence. The deformity of the organ is only slight.

Here is the result of the histological examination of the neoplasm, as made by our confrère, Dr. Lenoble, physician to the Brest civil hospital.

The pieces comprised a part of the arytenoid eminence, with a portion of the arytenoid cartilage, which is not included in the section; the fragments arise from the ablated ligamentum arytenoepiglottica.

The specimens were fixed in an acetic acid solution, enclosed in celloidin and stained with eosin and hematoxylin.

The section comprised two portions:

The one invaded by the neoplasm, the other containing the portions constituting the ligamentum arytenoepiglottica. The first exhibited throughout absolutely healthy mucosa, which enfolded the tumor.

(a) The diseased portion comprised two parts.

1, A fibrous structure, radiating throughout the neoplasm and represented by the original connective tissue more or less increased. 2, The neoplasm, represented by the projections of tubular epithelioma, heaped one against the other. It is a type of tubular epithelioma. In several portions of the preparation, the projections are cut across and enclosed in a cylindrical sheath of connective tissue. We discover that in the neoplastic tissue the vessels are at the periphery and are, for the most part, surrounded by neoplastic tissue. These vessels are the veins; walls are plainly recognizable. (b) The healthy portion is separated from the preceding by a kind of connective wall. It presents for consideration: 1, the vessels (veins and

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arteries); 2, the healthy glands; 3, the transverse section of the transverse arytenoid muscle; 4, the yellow elastic tissue; 5, underneath the mucosa limiting this portion, we discover a loose and soft tissue analagous to mucous tissue.

As to the other sections, the limitation between the neoplastic and the healthy portions is less distinct in the tissue of the tumor in the immediate neighborhood of the glands, which nevertheless do not appear to be invaded, indicating, however, a kind of embryonal infiltration involving the gland in closest relationship to the neighboring projection of the epithelioma, also of the disposition of the surrounding connective tissue. In several others, in the healthy portion, a vessel (a vein) exhibits a trace of the neoplasm. In rèsumè, we have a tubular epithelioma of distinct localization, and which appears to have been removed in its entirety.

The preparations made by Dr. Lenoble have been submitted for examination to Dr. Gombault (Paris), and to Dr. Moure and the histologists of the faculty of Bordeaux. All have been unanimous in recognizing that they clearly represented a tubular epithelioma.

Prevailing opinion is in favor of operating for malignant neoplasms of the larnyx by the external route, after thyrotomy. This method of operating is more logical, because it permits a better ascertaining of the extent of the neoplasm, and a better proportioning of the ablation of the suspected tissues. It is also more complicated, and above all graver, giving rise to a certain proportion of deaths. However, certain authors, as Fränkel (Berlin), Mack Scheier (Berlin), Jurasz (Heidelberg), remain strong partisans of endo-laryngeal intervention as the method of choice to employ in cancer of the larnyx. At the last International Congress of Medicine, at Paris, Fränkel stated that intervention by the natural passages was, in similar cases, a triumph of laryngology. But, with much sagacity, the authors are of the opinion that the operator who exclusively employs the endo-laryngeal method incurs a great responsibility. This method of operating has its indications and its advantages.

The indications, as well laid down by F. Semon, are the following:

1, an early diagnosis; 2, a distinct limitation of the tumor as seen in the laryngoscopic image, which must be situated so that we may remove it completely up to healthy tissues; 3,

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great experience in surgical technique laryngoscopically; 4, the possibility of submitting patients after the intervention to careful and periodical examination.

Among the advantages, the principal is that we may be assured of a diagnosis, and there is nothing contravening, in the case of lack of success, a more complete surgical intervention by the external route. It offers, moreover, less danger, and is much more readily accepted at a period where ablation of the neoplasm, at times very limited in extent, gives chances of success; and frequently, where the affection occasions only a simple inconvenience, an operation by the external route is rejected.

As considered by Mack Scheier,* the results of the endo-laryngeal method are superior to those of operation by the external method, particularly from the point of view of phonation. Among thirty-six published cases, deduction being made of doubtful cases, and for those of neoplasm of the epiglottis, the author estimates twelve recoveries, that is 33⅓ per cent.; and among the cases followed by recurrence he had reoperated three in which there was no further production at the end of two, three and four years.

Statistics collected by Sendziak (Warsaw) relating to ninety-two cases operated by thyrotomy, give twenty recoveries, that is 21.7 per cent. Other statistics by Goris (Brussels) give in forty-nine cases twenty-three recoveries, that is 46.9 per cent. But we attach little importance to these comparative statistics, as the two operations are not, in our opinion, to be considered as rivals. They are each complete, having each their particular indications.

According to the statement of Mack Scheier, which statement applies perfectly to our case, in the neoplasms at their début we may intervene *per vias naturales*, in order to confirm the clinical diagnosis by the microscopical examination. And this first intervention, when it is well practiced, may also be followed with therapeutic success in the case of circumscribed tumors of small dimensions.

In a very great number of cases the endo-laryngeal operation

* Contribution to the Study of the Endo-laryngeal Treatment of Cancer of the Larynx, (Archiv. internat. de laryngol., etc., March–April, 1901.)

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is scarcely practicable, the patients having generally consulted a specialist too late. Happily though, we may by the aid of a thyrotomy operate with some chance of success.

ACUTE ENTERO-COLITIS.

BY A. C. NORMAN, M.D.
CATO, MISS.

THERE is nothing that I know of in the practice of medicine that will tax a physician's skill and try his patience more than a case of acute entero-colitis. It must be differentiated from dysentery and cholera infantum, with which troubles we very frequently find it associated or following as a sequence, thereby making the prognosis very grave. I will not mention the etiology or pathology of this disease, taking it for granted the reader is familiar with both.

I see a great many writers give the prognosis as favorable, and seem rather inclined to treat the subject lightly. This has not been my experience, especially where the green discharges were associated with persistent vomiting. My prognosis was grave in a case I was called to see on May 20.

Child 2 years old; previous health good. Parents gave a history of child eating a handful of mulberries three days previous to my visit; was taken with a chill that night and began to strain and pass bloody mucus the next day. On examination I found a temperature of 104°F., pulse 160, a heavy brown coat on tongue, pupils dilated, abdomen swollen and tympanitic, skin cold with a copious perspiration, bowels acting about every thirty minutes, the discharges being of a greenish color, resembling rice in consistency. My treatment was, ℞ Bismuth subnitrat., ℥i; salol, ℈ij; calomel, gr. iv; sodii bicarb., ℥i. M. Make into twelve powders. Sig.—One every two hours. I also irrigated the bowel once a day with cold water containing 1 per cent. of salicylic acid. Restricted the diet to beef tea and broth. On my third visit the patient was steadily growing weaker. On the following day I called Dr. Robert Patrick in consultation. We decided to substitute carbolized glycerin in the place of the above prescription. The patient continued to grow weak, and on ninth day died in a profound coma.

I have never seen a single recovery where the rice-chop discharge was associated with persistent vomiting.

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PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

Typhoid Fever.

J. R. Stivers (*Brooklyn Med. Jour.*, vol. 16, no. 71), in considering the subject of typhoid fever, makes the following report of forty-four cases of typhoid, including patients in private practice and in hospital, treated during the past fifteen months. 87 per cent. of the cases treated were under 30 years. Thirty-two were males, twelve females. Thirty-eight of the cases recovered and six died, making a mortality rate of 13½ per cent. But of the six cases that died, three were moribund on admission to the hospital, two dying on the third day and one on the fourth day after entering, so that, excluding those three cases the mortality is reduced to 7.3 per cent.

The death rate in those over 30 years of age was 33⅓ per cent., there being six cases and two deaths. Two cases had severe intestinal hemorrhages; one, a girl 16 years of age, having twenty hemorrhages in four days; and the other, a girl of 14 years, having sixteen hemorrhages in about the same length of time. The hemorrhages occurred in both cases during the third week of the disease. Both patients recovered.

Two cases presented symptoms during the convalescent period that should serve as a warning to physicians that extreme caution should be exercised in regard to the exhibition of solid food. These cases, both of moderate severity, had nearly run their course and were thought to be doing well when in each case the temperature started up and remained in the neighborhood of 102°F. for four or five weeks longer. The patients, we supposed, were on the usual typhoid diet, and careful examination of the lungs failed to show any involvement of these organs, so that the temperature could not be accounted for until later it transpired that one of the patients in the convalescent ward had been smuggling bread to these

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two patients each morning during the temporary absence of the nurse. After this discovery was made and the errors in diet were corrected, the temperature dropped and both patients recovered.

The average time in bed of all cases that recovered was seven weeks. The patients all had the bath treatment, either the tub bath or the cold sponge, with such medicinal treatment as seemed indicated in each case.

Individual Predisposition in the Development of Tuberculosis.

H. T. Lewis (*N. Y. Med. Jour.*, vol. 76, no. 6) says:

1. Individual predisposition is a far more important factor in the development of clinical tuberculosis than bacterial infection *per se.*

2. The constancy of a pronounced failure in metabolistic equilibrium during and preceding clinical tuberculosis points to its importance as *the* constituting factor of individual predisposition.

3. The study of ferments in physiological processes shows that the enzymes are the working elements in the maintenance of normal metabolism, and justifies the conclusion that conditions of malnutrition are the result of their absence, decrease or variation.

4. Study of the chemistry and biology of the bacillus tuberculosis and the conditions favoring and resulting from its growth in the animal body, points to the fact that it possesses certain ferments in its organism which under favorable conditions perform the functions common to organic life.

5. Immunity to tuberculosis may be considered as the result and complement of those metabolistic changes in living tissue whereby the enzymes, through greater potency than those of the bacillus tuberculosis, are able to maintain a normal osmotic and functional activity in the ultimate cells.

6. Susceptibility to tuberculosis may be considered as a negative condition of organic tissue whereby the enzymes are less potent in the maintenance of normal osmotic and functional activity of component cells than are those of the tubercle bacillus in establishing bacteriogenesis.

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Kidney Disease in the Insane.

W. L. Perry (*Atlanta Jour.-Rec. of Med.*, vol. 4, no. 3) from a study of six hundred urinalyses and seventy autopsies arrives at these conclusions:

1. That diseases of the kidney are much more frequent in the insane than in the sane.

2. That the morbid states of the kidney associated with insanity include both functional and organic diseases.

3. That the functional derangements are more pronounced in the acute psychoses, and the organic lesions are more prevalent in cases of long standing.

4. That in both acute and chronic forms of insanity there is marked evidence of irritation of the renal epithelium.

5. That nephritis is not so important a factor in the etiology of insanity as has been supposed.

6. That a study of the kidney and the urine in the insane gives positive evidence of intoxication in a large per cent. of cases.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

The Surgical Treatment of Tuberculous Cervical Adenitis.

J. F. Mitchell (*Bulletin Johns Hopkins Hospital*, vol. 13, no. 136) says:

1. Tuberculous cervical adenitis is primarily a local disease of very frequent occurrence, more often in young persons; in itself not extremely serious and rarely if ever proving fatal.

2. It bears, however, a certain definite relation to tuberculosis of the lungs, and serves as the starting point from which tuberculosis may spread.

3. The tuberculin test, as an aid to diagnosis, is positive and harmless.

4. While recovery may often take place under good hygienic conditions, surgical interference is clearly demanded in most cases.

5. When surgical treatment is resorted to, the operation should be radical in all cases.

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6. Recovery may be predicted in 70 to 80 per cent. of cases so treated. Tuberculosis of the lungs, after complete removal of the glands, is comparatively rare.

7. Tuberculosis of the lungs, unless far advanced, is not a contraindication to operation, the removal of the glands apparently exerting a beneficial influence on the condition of the lungs.

Appendicitis.

M. Dieulafoy (Paris Cor. *Med. Press & Cir.*, vol. 74, no. 3299) communicated a case, before the Academy of Medicine, of a young man, æt. 25, who was suddenly seized with abdominal pain in the night time. The following day he arose as usual, but his sufferings became so great that he had to return to bed, and feeling worse he was admitted to the hospital, with a temperature of 102° and considerable pain in the right iliac fossa. Laparotomy was immediately practiced, and the appendix found to be the seat of gangrene. The organ was resected, and a small abscess discovered behind the cecum was drained. In spite of the operation the patient never rallied. At the autopsy no signs of peritonitis were discovered, but the kidneys were the seat of acute nephritis of toxic origin apparently. This fact would lead us to suppose that appendicitis should be attributed to intoxication, rather than infection. Consequently such cases should be operated on immediately, otherwise the patient would be exposed to the gravest danger.

It was said, continued the speaker, that operations *a froid* gave superior results to operations *a chaud;* the fact was true, but the question should be considered from another point of view. In order that a patient be operated *a froid*, he must naturally have survived the acute stage of his appendicitis, and that happy result is not always certain to take place. For him he advised the operation to be performed on the third day, at the latest, after the first symptoms of the affection.

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NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary, and to Presbyterian Hospital.

Pharyngotomy.

At the Vienna "Gesellschaft der Aerzte," Büdinger (Cor. *Med. Press & Cir.*, vol. 74, no. 3298) showed a male patient on whom he had operated for cancer of the throat, by removing the epiglottis and contiguous parts. He related Heindl's experience, who performed an endo-laryngeal operation for a similar condition with unhappy results. Büdinger said that he commenced by having a tube inserted into the stomach through the nose, but this caused such a catarrhal and even purulent discharge, that it had ultimately to be withdrawn.

After this the patient soon learned to draw the open parts together, and so fix the hyoid bone with the surroundings that deglutition could be carried on without an instrument. Taste was unaffected, although the voice was irreparably lost.

The prognosis of this operation is not encouraging, as only thirteen cases of epiglottal carcinoma were placed on record, ten recovering, while three died. These cases were simple epiglottal, but if the surroundings were involved the results were more pronounced, such as in eleven cases, where seven died, while four recovered.

Eiselberg said that he has operated for cancer of the epiglottis by extirpating the larynx altogether with perfect success. In one case he had a recurrence where one of the glands that had become infiltrated was left and formed a center for recrudescence. He disagreed with Büdinger as to tracheotomy being a prophylactic. He believed also that the nasal tube was a bad practice, as it produced rhinitis at a very early period.

Compression Cough; Its Importance in Diagnosing Bronchial Constrictions (Glandular Enlargements and Tumors of the Mediastinum).

Garel (*Ann. des mal. de l'oreille*, March, 1902) says that compression cough is pathognomonic of several kinds of bronchial compression, being distinguished from the ordinary spasmodic

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cough by its cavernous timbre. There may exist the case where a large bronchus is compressed at its origin, and where there are no other symptoms, where a diagnosis is reached by this means. The tumors which most frequently give it origin are the enlargements of the tracheo-bronchial glands, and aneurysms of the arch of the aorta at its origin. In those cases where the cough is observed to be sonorous and cavernous we should immediately direct our investigations as indicated, and by the aid of radioscopy arrive at precise diagnosis.

GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
NASHVILLE, TENN.
Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee); Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Puerperal Metastasis.

At a recent meeting of the Vienna "Gesellschaft der Aertze," Chiari (Cor. *Med. Press & Cir.*, vol. 74, no. 3297) related the history of a peculiar case of puerperal fever which recently came under his observation.

The patient was æt. 28, at her fifth confinement, which was described as a normal parturition. On the fourteenth day a rigor with high temperature occurred, which brought her to the gynecological department for relief. On examining the parts the uterus was found slightly enlarged with a fetid lochia. A few days after admission the patient had to be transferred to the "interne" clinic, owing to a purulent inflammation in the left shoulder, probably metastatic. After this a general pyemic condition supervened, followed a few days later by left pleurisy, the effusion being sero-purulent and containing streptococci. Subsequently nephritis and pustular exanthemata exhausted the patient, who died on the twenty-sixth day post-partum.

The post-mortem examination revealed pyemic foci in all the parenchymatous portions of the internal organs, with

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degenerative changes. The genitals showed no trace of injury and were in fact quite normal.

The best explanation that can be given of this case is that its origin was septic endophlebitis at the union of the external iliac vein, and the internal where a thrombus two centimeters long was found filled with streptococci which were identical after cultivation with those found in the pus elsewhere. It is also fair to assume from the findings that the poison entered from the uterus by the left uterine vein, and this view is confirmed by the fetid lochia.

Prevention and Cure of Insanity by Removal of Abnormal Pelvic Conditions.

E. Hill (*Amer. Jour. Surg. & Gynec.*, vol. 16, no. 1) says:

1. Less than 10 per cent. of the female insane have normal pelvic organs.

2. That, in the hands of competent operators, upward of 20 per cent. of the so-called chronic insane recover their mentality, and 15 per cent. are improved after the removal of the physical disease. [This is a modest statement, since the statistics of Dr. Hobbs (and my own) show a higher rate of recovery—39 and 30 per cent. respectively.]

3. We find that, inasmuch as the pelvic organs are exceptionally exposed to traumatism and infection, they are frequently the seat of disease; and that mental abnormality is more frequently associated with pelvic disease than with diseases of any other locality outside the large nerve centers. If this be the fact, we should ever be on the alert in all cases where there is marked alteration in the mental health of our patients; and while giving due consideration to the whole organism, to make a thorough investigation of the conditions of the pelvic contents; and in so doing we shall frequently be rewarded in finding in the pelvic disease the local irritations resulting in the abnormal psychic manifestations.

LABOR DAY.

If all the year were playing holidays,
To sport would be as tedious as to work,
But when they seldom come, they wished for come.

Shakespeare.

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CLIMATOLOGY AND PHTHISIOLOGY.

UNDER CHARGE OF LLEWELLYN P. BARBOUR, M.D., BOULDER, COL.

Intra-tracheal Medication in Diseases of the Respiratory Tract.

Barton (*Journal of Tuberculosis*, April, 1902) urges more frequent use of intra-tracheal injections in pulmonary tuberculosis and other diseases of respiratory tract. The following are the objections urged against this method of medication by those who have not used it:

1. Interference with respiration.
2. Excitation of severe cough.
3. That it can be used only by a laryngologist.
4. That it has no value as a therapeutic agent.

An examination of the anatomical parts concerned in respiration will convince the most skeptical that the first objection has no foundation. Respiration may be arrested by destruction of the cerebral nerve centres, by section of the pneumogastric nerves, or by shutting off the supply of oxygen. In this instance there can be only fear of flooding the respiratory tract. The human trachea is about four and one-half inches long; it is from three-fourths to one inch in diameter; it opens into the bronchi, which in turn open into the lungs; the respiratory surfaces of the lungs are estimated to be one hundred and thirty square meters; all this large area is covered with epithelium which is capable of absorbing liquids as well as gases and vapors. The quantity of liquid thrown into the trachea at one sitting rarely exceeds one-half ounce. Manifestly there is no danger of shutting off the supply of oxygen.

The fear of inducing severe cough is equally groundless. Remedies introduced into the trachea are dissolved in olive oil, distilled glycerin or in one of the bland petroleum oils, substances which do not irritate even that portion of the larynx supplied by the superior laryngeal nerve, and when these solutions are properly applied, little if any comes in contact with the larynx. The portions of the respiratory tract below the larynx are much more tolerant. Solutions which would greatly irritate the larynx produce only a feeling of comfort when applied to the mucous membrane of the trachea, bronchi and lungs.

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The third objection is likewise untrue. Any physician can use this method. An ordinary aspirating syringe holding two drachms, fitted with a curved end largyngeal tube seven inches in length, is all the apparatus required.

The patient is seated with his tongue drawn out and his head thrown back. He is instructed to breathe out. The physician then introduces the tube, keeping in the median line and carrying the curved portion over the base of the tongue, raising the elbow high enough to insure the point of the tube passing under the edge of the epiglottis. The patient is then instructed to avoid swallowing, to keep the tongue well drawn out and to take a deep inspiration. As the patient inspires the contents of the syringe are thrown quickly into the trachea.

Therapeutic value. This plan of treatment has an immense advantage over other methods. The remedy is applied directly to the irritated mucous membrane in quantity sufficiently large to immediately relieve the most distressing symptoms. Oftentimes the antiseptic effect is very pronounced, as shown by the longer intervals between the febrile attacks and their lessened intensity when they do occur. When there is cavitation with retention and decomposition of the secretions, intra-tracheal medication rapidly changes the character of the sputa and removes the disgusting fetor of the breath.

Diagnosis and Treatment of Tubercular Arthritis.

J. K. Young (*Therapeutic Gazette*, June, 1902) discusses this important subject. There are certain etiological facts connected with tubercular arthritis in whatever joint which are valuable in arriving at a diagnosis. Eighty per cent. of cases occur before adult life. Males are more frequently affected than females. There is undoubtedly often a hereditary tendency. Some of the signs which stand out prominently are spasm, pain, atrophy and night cries. Too little attention is paid to early fixation of a joint by muscular spasm. Sooner or later it is followed by atrophy of the contracted muscles. The pain which accompanies tubercular arthritis is sometimes referred to the peripheral distribution of the nerves. Thus in spine disease the pain is referred to the anterior portion of the body, and in hip disease to the inner side of the knee. The

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occurrence of night cries is characteristic of the second stage of tuberculous disease. They are significant of the extension of the disease to other portions of the joint, especially ulceration of the cartilage.

Tubercular arthritis must be differentiated from numerous other diseases of joints. The differential diagnosis between arthritis say of the knee joint, and of synovitis, the disease with which it is most frequently confounded, brings out the points given above.

NON-TUBERCULAR CHRONIC SYNOVITIS.	CHRONIC TUBERCULAR ARTHRITIS.
1. Marked effusion, capsule thickened.	1. No fluctuation, capsule not thickened.
2. Joint outline enlarged and obliterated.	2. Joint outline clear and distinct.
3. Motion nearly normal.	3. Motion limited.
4. Reflex muscular spasm absent.	4. Reflex muscular spasm present.
5. No atrophy.	5. Marked atrophy.
6. Pain absent.	6. Pain acute on motion.
7. Limp absent.	7. Limp present.
8. Night cries absent.	8. Night cries present.
9. Relation of femur and tibia normal.	9. Tibia subluxated.

Tubercular arthritis should be differentiated from specific arthritis. The symptoms just given of non-tubercular synovitis, together with the history and the effect of constitutional remedies, will make the diagnosis clear. The same symptoms will make the differential diagnosis between articular rheumatism and tubercular arthritis. X-ray photography furnishes an important means of diagnosis. By it we can distinguish the amount of bone destruction present.

Treatment is constitutional, mechanical and local. The constitutional treatment should be as painstaking as the treatment of tuberculous disease in other parts of the body, and along the same lines. The mechanical treatment may be summed up in one word—traction. By whatever means traction is employed, it should be thorough and long continued. The local treatment of tubercular joints by means of iodoform injections is very valuable in the smaller joints, but not so valuable in the knee and hips.

The operative treatment should be thorough when it is done at all; and there are two points which should be insisted on in all operations on tuberculous joints: first the preservation of of the bodily heat, and second, rapidity of operation. There are few operations in surgery in which the shock is more profound than in excision of the hip.

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VACANCIES IN THE ARMY MEDICAL DEPARTMENT.

It isn't often the case that there are more vacant offices in the gift of the government than there are applicants for the places, yet that is the condition of affairs in the medical department of the army. Uncle Sam desires forty-nine assistant surgeons to be sent to the Philippines, for which places only thirty applications have been filed. The assistant surgeon ranks as a mounted first lieutenant, and gets $1600 a year and allowances. That would seem to be enough to appeal to young doctors who wish to travel and gain experience.—*Savannah Morning News.*

We would diagnose this unprecedented situation as a case of insufficient advertising. Surely the news of these vacancies has not been sufficiently bruited abroad. The crop of young doctors has not been cut so short nor the health of the United States grown so distressingly good as to consume all the ambitious medicos making less than $1600 a year and with honors and emoluments of smaller importance than those of a first lieutenant in the regular army. In view of these facts we deem it nothing less than our plain duty to spread abroad the knowledge of this good thing among followers of Æsculapius.—*Memphis Morning News.*

THE average lay reader looks at the matter of appointments to public service from just such view-points as are given expression to in the above newspaper clippings, but the medical men understand that there are far deeper reasons for this

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failure to secure sufficient applications from which to select available timber for the medical department of the army.

While no doubt there are numerous young medical men making less than $1600 a year in the practice of their profession, to say nothing of the perquisites of an appointment in the army, yet the chances of advancement in rank and in pay are far too slight in the army for the life to be an inducement to adequately equipped young men to give up the prospects of success in private practice to the more restricted career of the army. The standard of requirements for entrance to the medical department of the army is very stringent, and herein has lain the chief difficulty in securing a sufficient number of applicants for the vacancies. Young medical men who possess the intellectual attainments demanded for a commission in the medical department of the army, usually prefer entering into private practice, for their chances of pecuniary returns and of professional development are far greater in the private ranks of life than they are in the military. It is true that the number who win extraordinary success in medicine is far exceeded by those who attain but a bare competence, but it is the prospect of such development that holds the young doctor in the ranks of the struggling aspirant, and it is such aspiration that has done so much toward the expansion of medical knowledge.

It is not, as our morning contemporary suggests, that the news of these army vacancies has not been bruited abroad, for such vacancies have existed in the army and navy medical departments from time to time for years, and the fact has been well advertised not only in medical but also in the lay publications. The army would have no difficulty in filling its medical department if it would be content with inferior material, but the high standard that it demands, and which we hope will never be lowered, is such that the applicant must be an exceedingly well rounded man, not merely in his medical knowledge, but also as to his other qualifications. This is very wise, and we believe that the *personnel* of the medical department of the army should always be maintained on the highest plane, even though there constantly exist vacancies in this department.

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It may not have occurred to our lay contemporaries that the sudden expansion of the United States army in a couple of years' time from a force of 25,000 men to more than 60,000 would account in a measure for this unusually large number of vacancies now existing in the medical department. It is a very easy matter to supply second lieutenants from civil life to fill the vacancies created in the line by this expansion, but the making of young physicians for the medical department is a slower and more exacting process.

THE NINETEENTH ANNUAL MEETING of the TRI-STATE MEDICAL ASSOCIATION.

An announcement that is usually looked forward to by a great many of our readers is the date of the meeting of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee. This remarkably successful medical organization has attained a position with the physicians of Memphis and contiguous territory of the states comprising the association, that leads them to expectantly await the approach of its annual meeting. The association numbers an attendance far in excess of any medical society in the South, and its customary full program is usually replete with papers of unusual practical interest and value.

This year the meeting will occur on November 11–12–13, and will take place as last year, in Germania Hall, where adequate arrangements have been made for the sessions of the association and for the splendid display of exhibits that is a characteristic feature of this meeting.

It is not too soon to urge upon the physicians of the territory tributary to Memphis to make preparations to attend this next meeting. With the exceptional prosperity that the country now enjoys we look forward to the greatest meeting of the association that it has ever held.

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EDITOR'S NOTES.

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY will hold its annual meeting on September 18th at Sioux City, Iowa.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will hold its 28th annual meeting in Kansas City, Mo., October 15–16–17.

THE HUMBOLDT MEDICAL SOCIETY will meet in Humboldt, Tenn., on Tuesday evening, September 2nd, at 8 o'clock. Quite a number of physicians from nearby towns are expected to be present at this meeting.

THE PANOLA COUNTY (MISS.) MEDICAL SOCIETY was organized at Batesville, Miss., on August 5th, the following officers being elected to serve for the ensuing year: K. P. Perkins, M.D., President; Edwin Wright, M.D., Vice-President; S. P. Lester, M.D., Treasurer; G. H. Wood, M.D., Secretary.

SOCIETY PROCEEDINGS.

MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY.

Regular meeting, Tuesday evening, August 5, 1902.

President Dr. Alfred Moore in the chair. Present, Drs. Alfred Moore, Barton, Buford, Thornton, Raymond, G. B. Malone, Edwin Williams, Thomas, Rice, Morrow, Wadlington, Burns, Andrews, Erskine, Castles, Vanhorn.

Visitors—Drs. Pierce and Primrose.

A Modern Hospital was the title of a paper read by Dr. G. G. Buford. (See page 468.)

Dr. E. C. Ellett, the appointee to open discussion on Dr. Buford's paper, being absent, the chairman called upon Dr. G. B. Thornton, who spoke in part as follows:

In discussing Dr. Buford's interesting paper it is impracticable to treat even briefly all the features of a modern hospital. My experience and chief study along this line has been limited to public and not private hospitals, having never been directly interested in private hospital work beyond a limited

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number of individual patients. For a number of years I had charge of the old city hospital, and have always been interested in the creation and proper maintenance of good public institutions of this character.

The new city hospital built in 1897 affords a good example of a modern hospital as far as its capacity, architectural and technical arrangement go. This plan of hospital was selected from twelve sets of sketches submitted to the City Council by eight competing architects. Dr. John S. Billings of New York was solicited and accepted the appointment of consulting architect to select what was considered the best plan. He was my choice or recommendation because he combined the double qualification of knowledge of hospital administration and hospital architecture, and was a deservedly and widely recognized authority on the subject.

This hospital, while severely plain and devoid of architectural ornamentation, internal or external, has all the essential features of a modern hospital for comfort and proper administration. Its capacity now is about one hundred and twenty beds, but is projected for a capacity of four hundred beds, its architectural arrangement and ground space or lot capacity being such as to admit of easy enlargement without changing its original plan.

Memphis now needs a public hospital with easy capacity for two hundred beds. Not that it requires room for two hundred patients all the time, but no public institution of this kind should be kept constantly full, with no reserve for extraordinary demand and no adequate facilities for vacating and renovating a ward or any of its departments. Good hospital administration demands this. I do not wish to be considered as in any way faultfinding with the present administration of our city hospital, nor do I look for perfection under any administration. The subject of a modern hospital is the thesis under consideration, which involves administration as much as architecture, and Dr. Buford's paper treats more of management in its several details than of modern architecture.

It is an admitted fact that the city hospital is too limited in capacity. It is a public charity, designed and maintained primarily as such. Hence if that capacity is curtailed by the

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admission of pay patients it follows as a matter of course that injustice must be done to the prime object. The city hospital was never intended as a pay hospital, and there is no provision made for this class of patients. Each pavilion or wing being two stories, has two wards, with a capacity of twenty-two beds. These wards are provided each with four rooms, and this feature was dwelt upon by Dr. Billings as essential to proper administration. These rooms are for nurse, diet kitchen, convalescent sitting room and isolation room with individual bath room attached; also across the hallway, linen room, bath room, lavatory and water closet. To use these rooms for anything else perverts them from their original purpose, and to this extent detracts from a modern hospital.

This hospital should have been opened with three pavilions or wings instead of two, and one given up entirely to sick women; and this would have been done had the building fund been adequate. The part of the main building, third floor, now used for this class of patients was designed for a maternity and for surgical and gynecological cases. This class and the sick should not be treated in the same compartments.

Not wishing to trespass longer on your time and patience this warm evening, I will state in conclusion as briefly as possible, that the unit of a hospital is the one bed. To provide best for the occupant at the least expense compatible with good service is the object of a public hospital. In the city hospital this is aimed at. Each bed has 1248 cubic feet of air space, which is thus obtained: ward twenty-four feet wide, thirteen feet high, and eight feet of floor space for each bed, that is, eight feet from center to center of the beds, which gives the above figures—1248 cubic feet. The hospital has all necessary modern facilities for ventilation and heating. The service building immediately in rear of central or main building, containing store rooms, convalescent dining rooms, with boiler room, ventilation apparatus, steam laundry and disinfecting chamber or appliance in basement, is so arranged as to facilitate best administration. The second story of this service building is set apart and well arranged for an operating room or amphitheater, to which medical students are admitted by an iron stairway from the rear of the building.

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The hospital is well provided with an excellent staff of visiting surgeons, physicians, specialists, etc., a corps of internes selected by competitive examination from the annual graduating class of our local medical college, an efficient corps of nurses, an active, intelligent administrator, and a competent, painstaking druggist for compounding and distributing medicines, dressings, etc.

The hospital is too limited yet, nor was it intended as a pay hospital, especially for whites. Negroes should be admitted as pay patients, but as ward patients. This is the only hospital in Memphis to which railroads can send this class of their employes when injured, and others of this class should have the same privilege in both male and female wards when desired. To open this hospital to all classes puts the city in a business competition with private institutions or its other modern hospitals, which is the theme of Dr. Buford's timely paper.

Dr. S. E. Rice said he thought we should not admit pay patients to private rooms in city hospitals. These rooms should be used for isolation rooms.

Dr. Erskine reported several interesting cases of obstetrics which recently occurred in his practice. In one case of puerperal convulsions he gave ten drops of tincture veratrum every hour for forty-eight hours before convulsions were controlled and heart became normal. One case of abortion at four months born by spontaneous evolution. One case of hemorrhoids in fourth month of pregnancy operated upon without aborting.

Dr. J. L. Andrews, in discussing Dr. Erskine's paper, said some authorities claim they can make a diagnosis and deliver the child without making vaginal examination, by simply mapping out presentation by manipulating the abdomen of the mother. In regard to convulsions, when saline solution was first used, it was in many cases given improperly. In every case in which used we should be sure it is indicated. Patient will sometimes die of shock from the injection of saline solution. We as yet do not know the cause of puerperal convulsions; they may be caused by albumin or excess of urea.

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Dr. F. S. Raymond said, in regard to veratrum, that he had never seen a case of puerperal convulsions which could not be controlled with it. We should give from twenty to thirty drops at a dose.

Dr. G. B. Malone reported a case of puerperal convulsions. He did not believe in veratrum. Always gives apomorphia. This will invariably control convulsions.

Dr. Rice thought in each case we should first look after the prophylactic treatment, and by proper diet and treatment we could prevent convulsions. Norwood's tincture veratrum will always control convulsions.

Dr. Erskine said, in conclusion, that when we consider the authorities in regard to puerperal convulsions, we are at sea, as all have different opinions as to cause. He thought up to the present time no one was positive as to cause. He said all precautions should be taken to prevent convulsions, but when they occur they have to be allayed.

BOOK REVIEWS.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburg, and Jno. Harold, M.D., London. With Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. J. B. Lippincott Company, Philadelphia and London. Cloth, $2. Volume 2; 12 series.

International Clinics is a very welcome visitor to every physician's office. It is valuable for its exceedingly practical nature and for the closeness with which the reader is brought in relationship to the author, who poses in his contribution as the clinical lecturer would to the student. The present volume, which is volume 2 of the twelfth series, contains a number of very important articles, chief among which may be mentioned one on the treatment of acute urethritis by Professor Ernest Finger, Vienna; passive movements and massage for the treatment of fractures, by Professor Lucas Championniere, of Paris; treatment of simple ulcer of the stomach, by Dr. Albert Robin, of Paris. Various other excellent articles, by equally distinguished physicians, add much to the excellence of the volume. Illustrations abound.

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A BRIEF OF NECROSCOPY AND ITS MEDICO-LEGAL RELATIONS. By Gustav Schmitt, M.D. 3¼ x 6¼ inches. Leather. 186 pages. Price, $1 net. Funk & Wagnalls Company, New York and London.

The making of necroscopies is a part of a physician's training that is sadly neglected in the average medical college. The medico-legal value of such training is of growing importance, and the physician who does not understand the technique and practical facts connected with the conduction of a necroscopy may be placed in a situation of considerable embarrassment. In this pocket manual the special needs of physicians, lawyers and expert witnesses are adequately met, and in brief form they are supplied with every essential detail connected with the making of post-mortems.

A TEXTBOOK OF PRACTICAL THERAPEUTICS. With Especial Reference to the Application of Remedial Measures to Disease, and their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With Special Chapters by Drs. G. E. DeSchweinitz, Edward Martin, and Barton C. Hirst. New (9th) edition. In one octavo volume of 851 pages, with 105 engravings and 4 colored plates. Cloth, $4; leather, $5; half Morocco, $5.50 net. Lea Brothers & Co., Philadelphia ahd New York.

It is becoming a matter of fact that we should have a new edition of Hare's Practical Therapeutics each year, for this work has met with such popularity that it is difficult indeed for the publishers to supply the demand. This new edition differs from those previous only in that it has been brought up to date in every respect. It has undergone a thorough revision, and nearly one hundred new illustrations have been added to an already large supply of these.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology in the Chicago Post-Graduate Medical School. Volume VII. Materia Medica and Therapeutics, Preventive Medicine, Climatology, Forensic Medicine. Edited by George F. Butler, PH.G., M.D.; Henry B. Favill, A.B., M.D.; Norman Bridge, A.M., M.D.; Harold N. Moyer, M.D. June, 1902. Published by the Year-Book Publishers, 40 Dearborn street, Chicago.

Of the several volumes already published in this series of year-books, volume 7, now before us, is unquestionably one of the most valuable to the general practitioner. This volume is devoted to materia medica and therapeutics, preventive medicine and forensic medicine. It is an accurate summary of the literature of the past year devoted to these various subjects, and presents its information in a comprehensive, but not too synoptical, form. These year-books, as now being published by the Year-Book Publishers, of Chicago, should find great favor with general practitioners.

P. Blakiston's Son & Company have issued the initial number of a publication entitled Medical Book News, which will be issued bi-monthly and contain a description of important books, reviews of medical papers, news items, lists of the most recent American and English books of all publishers, lists of new books on special subjects, and announcements of forthcoming books. This list of books will include those published by other than medical publishing houses.

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ORIGINAL ARTICLES.

SOME REMOTE EFFECTS OF HEART LESIONS, WITH SPECIAL REFERENCE TO THE UTERUS.

Report of Cases.*

BY B. G. HENNING, M.D.
MEMPHIS.
Professor of Principles and Practice of Medicine,
Memphis Hospital Medical College.

SINCE 1889, when epidemic influenza made its first general invasion into the United States, heart lesions have become much more prevalent, and I believe that were physicians to examine all of their patients closely, they would find a much greater per cent. of heart diseases than is suspected. A careless auscultation over the precordia with the unassisted ear through the clothing will not detect other than the most pronounced lesions.

Rheumatism is, and has been long believed to be the most common cause of diseases of the heart; and some author has said, in an attempt to explain the prevalence of heart disorders, that previous to the treatment with the salicylates rheumatic cases died and took their hearts with them, while they now recover, many with impaired hearts to be detected afterward. I feel confident that in la grippe, a disease capable of more complications and sequelæ than any other malady of

* Read before West Tenn. Med. & Surg. Assn. at Jackson, May 22, 1902.

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man, we have a common factor of endo- and pericarditis added to rheumatism, and to the many other disorders which may produce diseases of the heart.

When we think of the importance of an even distribution of healthy blood to tissues and organs of the human body, we may well imagine the frequency with which the various organs must suffer when heart lesions are of such frequent occurrence. When any lesion of the heart, mainly mitral regurgitation and aortic stenosis, so impairs the circulation of blood as to cause a chronic congestion of an organ, then must result a production of new tissues in the stroma of that organ, which new tissue may be the result of a productive form of inflammation, or the product of a chronic congestion without inflammation. This new tissue growth directly caused by the congestion or overfeeding of the parts, and that due to an impaired circulation incident to the loss of the *vis a tergo* of the heart, is diffused throughout the interstitial tissue; it must soon obstruct mechanically the circulation and function of the part involved.

The kidneys, the most vulnerable organs of our bodies, are so prone to become the seat of a productive interstitial inflammation (a diffused nephritis) secondary to heart lesions, that the urine should be carefully examined in every case of cardiac insufficiency. The lungs are not infrequently attacked by a cardiac pneumonia, the result of a hypostasis. The mucous membrane of the stomach may too become congested, and digestion permanently be impaired by a productive inflammation obstructing the peptic ducts or destroying the glands of the stomach. I have seen more than one case of frightful hemorrhage from the stomach due to mitral insufficiency.

The liver, like the kidneys, may be the seat of chronic congestion, a growth of new tissue, and finally degeneration and atrophy, from heart lesion. But another organ which not infrequently suffers and to which I wish to call special attention, is the uterus. Just as an enfeebled heart may cause a chronic congestion of other organs, so may it affect the uterus; unlike other organs, it has in menstruation an outlet for its congestion, thereby preventing the tissue change as in other parts, but the retarded circulation in the uterine vessels may

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prolong or increase the menstrual flow to the extent of a troublesome menorrhagia; or in a gravid uterus, after the cessation of the menses, the vessels may become so congested as to result in a uterine hemorrhage and an abortion.

Within the last few years the following cases have come under my care, some of menorrhagia and some of abortion, which I believe were due to diseased hearts:

Case I. Miss H., aged 18 years, of excellent family, had a marked mitral regurgitant murmur, was much troubled with a prolonged and excessive flow at each menstrual period; had learned the necessity of keeping her bed at such times to avoid the excessive loss of blood. She was married at the age of 19 years, had one child in due time, and was found dead in bed six months after confinement.

Case II. Mrs. M., aged 36, came to me just one year ago, very anemic, with the history of having been unwell the greater part of the time for the previous year. On examination I found a distinct mitral murmur; found nothing abnormal elsewhere. I curetted the uterus without an anesthetic and gave her an iron tonic. The flow was decreased, but not checked. For some weeks afterward I made intra-uterine applications of either pure carbolic acid or iodine once a week without benefit. I then washed out the uterus with a solution of Monsel's iron and advised her to go east for the summer. In the fall she returned unimproved. I then put her on digitalis and nux vomica, and within a short time the discharge was checked, and with the exception of an excessive menstrual flow of a few days, she has since done well.

Case III. Miss B., aged 17, of healthy parentage, gave a history of having lost an excess of blood at each menstrual period since her first, and that about two years ago two physicians thought best to curette her, which benefited her for a few months, after which the menstrual flow again became excessive. In April, 1901, she consulted me, stating that she had been unwell continuously for several months. She was very anemic and nervous, otherwise in good health. I found a well-defined aortic stenosis. I gave an anesthetic (chloroform) and curetted, removing some granulated matter from the endometrium, which checked the hemorrhage and improved the menstrual flow for six months, but since then each period was excessive in quantity and time until now, when the flow is continuous. Iron, digitalis and tonics have not been of any benefit.

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Case IV. Mrs. E., aged 19 years, married in January, 1902, sent for me in April last. I found her three months pregnant and losing a good deal of blood from the uterus, which had continued for the past week. Her heart gave a marked mitral murmur; she could give no cause for the threatened abortion. Chloroform was administered by Dr. O. S. McCown, and the uterine contents removed. She gave the history of excessive menstruation.

Case V. Mrs. C. In 1895 I was called in haste to find her, then a girl of 16 years, bleeding most alarmingly from the stomach, having vomited a large quantity of blood. I could find no cause for hemorrhage except that she had a bad mitral insufficiency. Her previous health had been good except the dyspnea of an impaired heart. In 1900 she was married to one of our city druggists and had a child within twelve months. On the 8th of the present month (May) I was called, found her in appearance the picture of health, two and one-half months pregnant, but with a slight uterine hemorrhage. She was put to bed and such precautions taken as I hoped would check the flow. She was very anxious for a child, having lost her first with diphtheria. On the morning of the 12th inst. she had a rigor and high fever. Dr. McCown again gave chloroform and I cleansed the uterus, finding a large quantity of dark clotted blood. She had no further trouble. I could find no cause for abortion other than the heart lesion.

Case VI. Mrs. F., aged 31, mother of five children, called me in February, 1893. I found her with acute inflammatory rheumatism involving several points, with high fever and profuse sweats. Her heart soon became affected. She was at the time six months pregnant. One month afterward she had a severe rigor and fever, the fever continuing for several days, when labor pains set in and resulted in a miscarriage at seven months. I found a large disintegrated clot in the center of the placenta. The uterus was cleansed and the patient made a good recovery except with a well-marked heart lesion. She has aborted three times since at about the third month, for which I can find no cause excepting in the heart.

I might report a number of such cases, but the above six are sufficient to illustrate my theory, that is, that a diseased heart causing an impaired circulation through the uterus, may produce menorrhagia, metrorrhagia, abortion or miscarriage.

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PLEURISY.*

BY J. T. BARBEE, M.D.
JACKSON, TENN.

INFLAMMATION of the pleura may occur as a primary affection, or perhaps more frequently it is secondary to a general or local disease. Pleurisy occurs at all ages.

Chill from exposure to cold and wet is often the exciting cause of pleurisy—probably by lowering the vitality through disturbed nutrition; this gives the agents that excite inflammation a chance to get in their work. Any constitutional disturbance or even a tendency toward it, especially noted in tubercular diatheses, tends markedly to produce liability to pleurisy. Diseases of the adjacent organs, especially of the lungs, extend their inflammation often to the pleura; so also is it true of pericardial and mediastinal diseases. It may follow injuries of the chest wall and lungs. It may occur in the course of acute or chronic diseases, such as septicemia, the acute fevers, acute rheumatism, Bright's disease, some hepatic and malignant diseases.

Examination of the fluid has frequently shown that the inflammation is due to irritation of the pleural membrane by microbes; of those most frequently met with are tubercle bacillus, pneumococcus and streptococcus. There can be no doubt that most dry pleurisies and pleurisies with serous effusion are due to the tubercle bacillus. McPhedran, of Toronto, says that many French observers believe that 75 per cent. of all such cases are of tuberculous origin. That a pleurisy of the kind just mentioned gets well is not evidence that it was not tubercular. "Of one hundred and one cases of pleurisy," examined post mortem by Osler, "thirty-two were definitely tuberculous, and thirteen existed in patients having tuberculous lesions of the lungs without any definite proof of the tuberculous character of pleurisy."

Eichorst reports as follows: "The exudate obtained from twenty-three patients who had been in good health when they acquired the pleurisy, and in whom no tuberculous lesions could be detected after the most careful examination, was

* Read before West Tenn. Med. & Surg. Assn. at Jackson, May, 1902.

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injected into guinea pigs. As a result fifteen of the twenty-three animals, or 65.2 per cent. developed tuberculosis, while only eight, or 34.8 per cent., remained healthy." These results indicate that nearly two-thirds of all cases of acute serous pleurisy are of a tuberculous origin. That most idiopathic pleurisies are really of a tuberculous nature may be seen from a report by Aschoff: "Of inoculations in twelve so called idiopathic cases, nine caused tuberculosis in guinea pigs." Rheumatic pleurisy due to the pneumococcus may be primary, but is usually secondary to pneumonia. The effusion may be sero-fibrinous, but more frequently it is purulent. Empyema in children is most always due to this bacillus.

Streptococcus pleurisy is the typical empyema of the adult. The infection takes place directly from the lung, as from broncho-pneumonia, gangrene, abscess, tubercle or even some general septic condition.

No doubt some of our idiopathic cases are rheumatic.

The morbid anatomy of these parts is about the same as inflammation of any serous membrane. The pleura loses its polish, the fibrin thrown out forms a thick shaggy layer on its surface. If the inflammation ceases at this stage we call it dry pleurisy. It is probable in most mild cases absorption of this exudate is complete, leaving no adhesions.

The effusion may be serous or sero-fibrinous, purulent or hemorrhagic. The amount of fluid varies from a few drops to enough to enormously distend the chest.

Page says the more acute the inflammation the more the fibrin, the more chronic the more serum in the effusion. If the effusion is sufficient to fill the cavity, the lung is pressed into a dark mass at the root and soon becomes carnified.

The purulent effusion may first have been a sero-fibrinous one, but in most instances the exudate is purulent from the beginning, especially in the streptococcus infection. Hemorrhagic effusions are usually tuberculous, less often carcinomatous.

In long standing cases the pleura becomes a dense thick membrane. Adhesions are not uncommon, often interfering with lung expansion.

While pain and friction fremitus are the most pathogno-

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monic symptoms of a simple acute pleurisy, a diminution of the first, the loss of this second previously existing physical sign, with diminution or loss of vocal resonance and, on percussion, a flat note and the increased or board-like resistance over the whole surface of effusion, point most inevitably to an effusion.

The general symptomatology and physical signs of pleurisy with effusion are well known. Suffice it to say that the fluid collected in the pleural sac displaces the lung and acts as a partition to intercept sound, so that over the site of the fluid the vocal fremitus is diminished or absent; so also are the respiratory murmur and vocal resonance.

Occasionally a string of adhesion or rib may transmit such sounds to some spot. Palpation is of the greatest importance. The diminution or absence of fremitus, even with bronchial breathing, is significant. The physical signs of a much thickened pleura are much the same as with an effusion, except to a less marked degree.

In pleurisy with effusion inspection is very valuable. The expansion becomes lessened as the fluid increases on the affected side, while it increases on the well side. There is an increase in the antero-posterior diameter, and bulging of the intercostal spaces. When the fluid rises higher than the angle of the scapula the lung becomes relaxed and we find a tympanitic note above the nipple—the skodiac resonance. The level of the fluid usually alters with the change of position, if there be no adhesions. The whispered voice, it is said, may clearly be transmitted through serous but not through purulent effusions; this is Baccelli's sign. Exploring the chest with the aspirator affords the best means of determining the existence of a fluid and its character.

In considering the diagnosis I will suppose the general history known, and will speak more of physical signs. The difficulties belong chiefly to the earliest and the latest stages. In these affections there is no fever and the pain is more marked along the course of the nerves. In the latter stages the diagnosis is based upon the enlargement and immobility of the chest, dullness and absence of vocal thrill, weakness of respiratory sound and cardiac displacement; the last sign is the

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most important. The hypodermic or aspirating needle should be used in all doubtful cases of effusion. Excepting in some few instances which will be discussed later, the fluid can be obtained and its character noted.

The physical signs of thickened pleural walls are generally the same as those of pleurisy with effusion, except to a less marked degree.

By adhesions the fluid may be encapsulated in one or more localities of the pleura. A local diminution of vocal resonance with evidence of a septic fever should lead to the use of the exploring needle. If the effusion is interlobular or encapsulated on the diaphragm diagnosis is difficult, even with the aid of the aspirator. The use of the X-ray may be of use in diagnosing these cases. Bouchard has found that the area corresponding to the effusion, in cases examined, "was occupied by a dark tint in sharp contrast with the light color of the healthy side."

Pressure on the end of the tenth rib causes increased pain in the diaphragmatic variety. Pain is always a prominent symptom. If there be an interlobular collection of fluid, and if it be pus, it is difficult to diagnose from an abscess, especially if it opens into a bronchus.

Diagnosis as to the kind of effusion is very important, as we have just seen from a study of the causes. The aspirator usually decides with certainty the kind of fluid if the signs fail us. Hectic fever, sweats and edema of the chest indicate pus, while pus may exist without definite symptoms. The voice sounds are usually not transmitted, or to a less degree, through a purulent than a sero-fibrinous fluid. Dr. J. S. Winters says, "The reason why whispered resonance is almost always absent in cases of empyema is because there is extensive thickening of the pleura."

In differentiating from solidified lung tissue, measuration of chest and heart displacement are of much importance. With effusion measurement of the affected side is most always increased; not so in pneumonia, nor does it displace the heart. In differentiating from lower lobe pneumonia the curved line of Ellis, high in the axilla, lower before and behind, is the reverse of the interlobular fissure.

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The obstruction of a primitive bronchus by aneurism or mediastinal tumor will exclude the air and the voice sounds from the lungs, and give the same signs as in pleurisy with effusion. The differential points are the same as given in pneumonia, measuration and heart displacement.

The position of the cardiac impulse is the most important sign in differentiation of the left side effusion from pericarditis with effusion; it is not displaced to the right in the latter. The heart is feeble and impulse weak and diffuse.

An abscess below the diaphragm, or hydatid cyst, may force the diaphragm up and be mistaken for pleurisy with effusion. Alexander McPhedran says "on introducing a canula the pus is forced out during inspiration in subphrenic abscess, in pleural effusion during expiration."

In children and young adults acute primary sero-fibrinous effusions rarely prove fatal, except from excessive effusion, absorption taking place usually within a few weeks. Absorption is more likely after aspiration. Tuberculous cases are less favorable. The complication of pericarditis makes it grave. Quoting from McPhedran again he says, "The pleura not being a vital organ, disease of it can prove fatal only (1) from septic absorption, (2) from extension of disease to other structures, or (3) from the volume of the exudate interfering with the functions of neighboring organs."

Steptococcus pleurisy is the most grave, as even with free drainage infection may occur. Pneumococcus cases are usually favorable under operative treatment. In tuberculous cases the fluid is often sterile; if the infection is confined to the pleura they do well. Treatment should be rest in bed even in mild cases until the acute symptoms abate.

For the pain, counter-irritants, immobilization by adhesive straps, application of heat, or, as recommended by some, the ice bag, and in severe cases leeches. A hypodermic of morphin often has to be used when the pain is great. When there is moderate sero-fibrinous fluid and the patient is strong, free saline purgations with a dry diet may be used in order to deplete the blood and thus lead to absorption. In a later stage iodide of potash is usually given, but perhaps with little result. Page recommends salicylate of soda very strongly in

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that class of pleurisies which begin from exposure to cold or wet, which he classes as of rheumatic origin, and treats them considering the pleural cavity as a very large joint. In support of this treatment Le Fevre refers to observations which have been made in which salicylic acid was found in the pleura almost immediately after it had been administered, therefore he thinks it probable that it had a local curative effect. After the acute symptoms have disappeared, which is usually within two or three weeks, and the fluid is not subsiding, operative measures are to be considered for the removal. In cases of purulent effusion, removal at once by incision between the ribs, or excision of a section of rib should be resorted to. Likewise there should be no delay in aspirating a very large serous effusion where intrathoracic pressure is evident, or there is dyspnea, for fear of heart failure. It is interesting to note the difference among leading teachers as to the time to aspirate. Dr. Page says, "Unless the symptoms be urgent, never operate during the acute stage. There is a great tendency to the formation of adhesions in pleurisy under the best conditions. To draw off this fluid during the active stage of inflammation, as evidenced in part by pain and temperature, would simply bring the inflamed surfaces together that had hithertofore been kept apart by the effusion. Increased irritation with a more severe grade of inflammation would follow, and extending into the subserous connective tissue, would convert a superficial into an interstitial exudation, and result in a thickened pleura, if not extensive plastic adhesions." We find Quimby supporting Page. On the other hand no less a man than Delafield says he has "given less and less drugs until he has reached the conclusion that aspiration is *the* treatment for pleurisy, and is not to be employed to draw off the fluid but to cure the disease in the shortest possible time, it matters not whether the case is acute or subacute, or whether or not the patient is uncomfortable." He adds that "ordinarily only one aspiration is necessary, and the patient is able to be about within a week. Under the old treatment it usually takes three or four weeks, sometimes months." Drs. J. S. Winters, Beverly Robinson and W. H. Katzenbach claim a similar experience.

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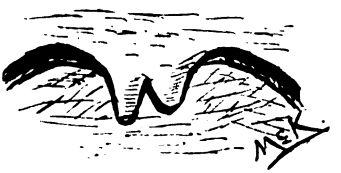
The withdrawal of a small quantity often starts absorption, and the whole then rapidly disappears. McPhedran says, "This is probably due to the removal of excessive pressure from the pleural vessels, allowing of their dilatation and of a free flow of lymph."

The point of aspiration is in the midaxillary line on a line with or a little below the nipple, as here the chest wall is thin and the spaces wide; this is about the sixth or seventh interspace. Only sufficient suction to maintain the flow is to be used.

Much cough, pain in the chest or the appearance of blood are indications to stop the withdrawal. Empyema is to be treated by free incision and drainage, care being taken to let the fluid escape slowly for fear of syncope. If there is doubt about drainage resect a rib. This is probably always best. The point of operation in both is at the most dependent point, to be determined by aspiration. It is rarely, even in infected cases, desirable to wash out the cavity with any fluid. Good drainage is usually sufficient, and if the fever does not soon drop it means usually that drainage is poor. In the treatment of all varieties of pleurisy it must be remembered that good food, fresh air, and a general supportive treatment are most imperative and should not be overlooked.

HEREDITARY DOUBLE UVULA.

BY RICHMOND McKINNEY, M.D.
MEMPHIS.
Laryngologist to East End Dispensary and to Presbyterian Hospital.



It is not that bicornuate uvulas are particularly uncommon that I report this case, but it is the rather unusual transmission of this deformity to one of the patient's offspring that justifies calling attention to the occurrence.

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The patient, a man 34 years of age, consulted me at the instance of one of our local physicians for relief from a persistent nasal stoppage, and during the course of the usual examination I noticed that he had a well-marked case of double uvula, the distinction between the two horns being so decided that each in itself would have constituted a fair-sized normal uvula. On calling the patient's attention to this, he stated that the same condition was to be found in his son, aged 12 years. Examination of the boy revealed a duplicate deformity.

This is an apt illustration of the transmission of a deformity from a parent, and but bears out such occurrences as noticed in the lower animals, for instance the white spot on the forehead or the white stockings of a colt that he has inherited from his father.

Lyceum Building.

TYPHOID FEVER—DRUG ADDICTION—JOTTINGS.

BY W. S. ROBINSON, M.D.

FROSTVILLE, ARK.

TYPHOID fever is a disease in which the lesion is a congestion and ulceration of certain portions of the intestinal tract; it is undoubtedly due to a microörganism which obtains entrance into the body by way of the intestines. I think by far the most common mode of conveyance of typhoid fever is by the contamination of drinking water with excreta from a pre-existing case of the disease. Though water is much the most frequent source of transmission of typhoid fever, it must be borne in mind that milk not seldom plays the same rôle. But let that be as it may, the thing is to conduct the case through successfully. The first thing I do is to have the patient put in the hands of a careful nurse to whom specific directions must be given, if necessary in writing. As to its management, I myself at first superintend disinfection of discharges and giving of baths, administration of nourishment and the like. The sick room should be large, divested of all unnecessary trappings and capable of being always well ventilated. The bed must not be too wide, and should be so placed that it may be approached from both sides by the attendants; when prac-

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ticable it is often desirable to have a second bed in an adjacent room to which the patient may be carried for the night. This is especially gratifying to the patient when there is a tendency to insomnia or restlessness.

Complete rest in bed is imperative from the first day that the disease is suspected. There is no doubt that those cases do the best in every way and have fewer complications with best chances for recovery that have absolute rest with careful nursing from the earliest period of the disease. The mattress of the sick bed should always be protected by a rubber sheet placed immediately over it. Bed and body linen should be changed daily, or immediately if noticeably soiled.

My treatment is as follows: I commence at once and give six or eight grains of calomel; this sweeps out of the alimentary canal all toxic material, such as undigested and fermenting food, ptomaines and leucomaines. Calomel is regarded as one of the best intestinal antiseptics. It acts as an antiseptic in its own form, and indirectly by stimulating a more active secretion from the liver and intestinal tract. Calomel properly given lowers the temperature and shortens the duration of the disease. I give it whenever indicated throughout the fever, in small doses, about an eighth of a grain. After my patient gets the effects of the calomel, and the fever continues to run high, I give acetanilid and salol every three or four hours. After a few days, if the fever does not run above 103°F, I leave off the acetanilid and continue the salol throughout the fever. I have my patient sponged with warm water every day and I take special pains to find out if the patient sleeps well, for there is nothing which more effectually saps a patient's strength than inability to sleep. In nervous diseases this symptom is especially to be dreaded. I have made it a rule to prescribe bismuth subnitrate in all cases if the bowels run off, even if diarrhea is slight. You will have no diarrhea to amount to much if you use salol throughout the fever, with bismuth occasionally. In a case of depression, clammy skin or feeble pulse, sponge the skin and give brandy toddy and a little dilute muriatic acid in buttermilk to procure better relish of food.

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Now, in regard to feeding in typhoid fever, I think we should be very cautious and not give too much food; buttermilk is my main reliance; I give it throughout the disease with crushed ice. Typhoid fever is a disease of malnutrition and exhaustion of the vital forces. There is a diseased state of the intestinal glands making absorption difficult. All authorities agree in considering milk in some form the best food in typhoid fever, milk being beyond doubt in itself the most complete of all single foods and, judiciously administered, the most practicable of all that can be employed in typhoid fever. It is an error to depend on it alone in the dietetic management; much water is required by the patient and considerable of this may well be administered added to the milk used. The tendency is oftentimes to overfeed in typhoid fever. It can not be too strongly urged on the nurse that pure water be allowed the patient in abundant quantity from the start. Water should be given freely though not in too large quantities at a time. If I could have but a single remedy, I would choose as pure water as could be obtained for that remedy, and leave the result to vital force.

I do not believe in dosing and doping the patient every fifteen minutes every two or three hours is often enough to give medicine. When night comes I let the patient rest with as little medicine as possible. Nothing should be left to chance with a typhoid patient; the kind of food and the hour given should be written out and the family told that nothing else goes. When the glandular system begins to act and the tongue to clean, the mind emerges from its stuporous condition and evidences of appetite begin to manifest themselves, you can increase your food. The intervals of feeding should be about two to three hours, and a trifle longer intervals may be permitted through the night, should the patient's condition be good and his sleep sound.

After the subsidence of fever and the approach of convalescence, a more liberal diet is permissible. Not infrequently what has seemed but a slight indiscretion in diet has apparently been the means of precipitating recrudescence of the fever and often perforation, followed by collapse and death. Early indulgence of the appetite in cases in which typhoid

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ulcers have not completely healed, though the temperature has been normal for several days, is dangerous.

In all severe cases, as before remarked, the digestive functions are usually profoundly affected, especially the gastric and probably the pancreatic-secreting activity; and these can not be expected to resume their normal condition immediately with the subsidence of the fever, hence our caution along this line for some days.

For all those of the medical profession who claim that the drug addiction can not be cured permanently and inside of eight or ten days, I notify them now to begin to revise their opinion on this subject. I treat these cases by the antidotal method with hyoscine hydrobromate, which will destroy all craving or desire for the drug in twenty-four hours without any bad effect on the patient.

ABNORMALITIES OF THE UTERUS AND VAGINA.

BY JOSEPH E. JOHNSON, M.D.
MEMPHIS.

Case I. *Uterus bicornuis. Pregnant both sides.*

On August 12, 1895, I was called in consultation with Dr. T. T. Shipp, of Collinston, La., to see Mrs. A. B., aged 20, with threatening abortion. She gave a history of being four months pregnant. Soon a three months fetus was expelled,

Fig. 1

and as the membranes did not come away, I introduced my finger into the uterus—the canal from which the fetus came turned to the right. At point A (see Fig. 1) there was a

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membrane protruding through what seemed an opening a half inch in diameter. Upon applying my finger to this, I readily got ballottment. As the membrane was not ruptured we tried to save the contents of the left side, but in four hours I had to remove it, after much trouble, as the opening which entered the common cervix was quite rigid. This was a well developed four and a half months fetus. She had no sequelæ.

About a year later I attended her in miscarriage at the sixth month—no serious trouble. I have not heard from her since.

Case II. *Uterus duplex.*

Pinkie S., colored, aged 22, of West Point, Miss., came to me February 10th, 1900, with a history of being three months pregnant, and wanted an examination. I found a duplex uterus and vagina. The left segment was pregnant, but the

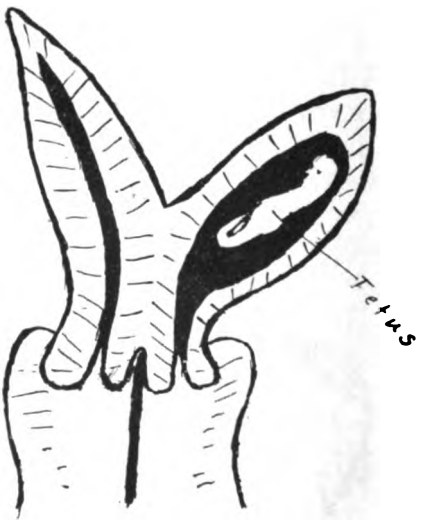

Fig. 2

other segment was plainly palpable. The cervix was double, and a septum which was about three-eighths of an inch thick extended to the vaginal opening. The two vaginal openings were of equal size. The vaginal septum was very nearly exactly antero-posterior. (See Fig. 2) As this was an unusually interesting case I had Drs. W. D. Hubbard, T. G. Ivey and O. C. Beathes to examine her. She was delivered at term, but I did not have opportunity to examine her subsequently; she being a negress and illiterate, I could not keep up with her.

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Case III. *Uterus duplex.*

Ella T., colored, of Oconee, Miss., married three years, no pregnancy, came to me June 3d, 1900, for operation for fistula in ano. She had no knowledge of anything abnormal. On examination I found that a septum vaginæ extended to the cervix, which was apparently well developed on each side. (See Fig. 3.) I used a probe and found the right cervical canal one

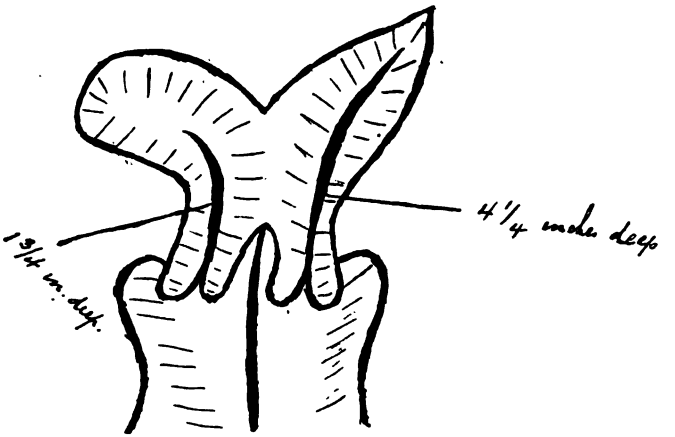

Fig. 3

and three-fourths inches deep, while the left was four and one-fourth inches deep. She had no trouble at menstrual periods and was otherwise perfectly normal in development.

Drs. E. T. Wilkinson, Frank Spalding and W. D. Hubbard examined this case with me.

Case IV. *Double vagina.*

Mrs. L., aged 19. I was called in consultation with Dr. W. W. Nosh to see her at her home. She was suffering with cystitis and cystic ovaries. I operated upon her and had to remove both ovaries. The vaginal opening was a small slit on each side, and it was very difficult to make a vaginal examination. The bridge thus formed by the two openings was one inch wide and half an inch thick. I removed it and brought the edges of mucous membrane and skin together with sutures.

This is the only case of the kind I have seen.

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A CLAIM FOR PRIORITY IN THE SUGGESTION OF SERUM THERAPY.*

BY E. H. RANDLE.
HERNANDO, MISS.

EXTRACT.

In 1880, and in 1886, I wrote on "Antagonism of Forces and its Application to the Spread of Epidemics," taking the ground that this is a universal law, and that therefore it is some antagonism that checks the ravages of an epidemic, and that it is some antagonism generated in a patient with a contagion why he recovers and is immune from it afterward.

In the *Medical Times and Register* of Philadelphia for June, 1889, I quote, in speaking of Pasteur's experiments with chicken cholera: "No animal or plant weakens or becomes extinct except by some antagonism. Now, is it possible to get the antagonism free from the disease and give it to the chickens? If so it will mark one of the very greatest triumphs in medical science. * * * A chicken having recovered from the cholera is possessed of an antagonism to that disease. Now if its blood be injected into the veins of another chicken, will the antagonism be communicated to the second chicken? If the antagonism is in such blood, can it be cultivated and multiplied like the microbes of disease, and then be communicated to other chickens sufficiently to prevent them from having the cholera? Here is a wide field for experiment with all microbic affections and contagions." * * *

One year after the publication of my theory in the *Times and Register*, Drs. Behring and Kitasato, of Berlin, proved by such experiments the theory I advanced. I do not know that either of these gentlemen had seen what I had written before they performed their experiments, but it is a little singular that Dr. Behring did not answer my letter when I wrote to him, inclosing a copy of my lecture and asking a reply.

Dr. F. L. Sim, in the MEMPHIS MEDICAL MONTHLY of January, 1894, wrote: "We believe that Professor Randle can justly claim the distinguished honor of having first 'blazed' the way leading to these important therapeutical prospects."

I next quote from Dr. W. M. L. Coplin, professor of path-

*Read before Tri-State Med. Assn. of Miss. Ark. & Tenn., Memphis, Nov. 15, 1900

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ology in Jefferson Medical College: "Your letter and a copy of your lecture have just been handed me, and I hasten to reply. It is important that your early communication of the theory involved in the advanced prophylaxis and treatment of disease be immediately established beyond cavil, as we can win thereby for American science a priority of the greatest import. * * * I cannot tell you the pleasure it will give me to aid you in this, nor how gladly I welcome this evidence of the conceptive American mind."

This letter was dated Philadelphia, December 1, 1893.

I received many other letters from distinguished physicians quite as encouraging. I am aware that the one who advances a theory has not equal credit with the one who establishes it by experiment; but this is not always so, nor necessarily the case. Gallileo advanced the theory of the atmosphere's having weight; Torricelli and Paschal proved it by experiment, but Gallileo received the chief honor for the discovery. Franklin published to the world his theory of the identity of lightning and electricity, and described a specific experiment by which it might be tested; a Frenchman tested and established Franklin's theory, and gave Franklin the honor. Franklin, however, afterward proved it himself by his kite experiment, before he heard of the Frenchman's experiment.

In my contribution to the *Times and Register*, and also in the lecture I gave before this body, I think I clearly established the fact that the antagonism to a contagion is something separate from the contagion that produces it, and may be acquired by a person without his having had the contagion, and pointed out numerous instances of the kind, and suggested the possibility of capturing this antagonism and administering that to those not immune.

I next pointed out exactly where the antagonism might be found, and stated a specific experiment by which it might be tested. Twelve months afterward Behring and Kitasato established the theory I advanced by experiment in the identical manner which I suggested. Why the pathologists of America, who were well prepared for such work, did not take up the suggestion at once and win the honor of the test for themselves, and the honor of the plan for me, I am at a loss to know.

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COMMITTEE'S REPORT.

The report of Dr. Krauss, as chairman of the committee appointed by the association to investigate the claims of priority in the discovery of the immunizing properties of the blood of infected individuals made by Prof. E. H. Randle, made the following report:

Prof. Randle claims:

1. The discovery of a law of antagonisms—not antagonisms, for that has been known before.

2. That there is an antagonism to every contagion.

3. That this antagonism may be secured and administered to one not immune and give him immunity.

4. This antagonism may be found in the blood of an immune, and by the transfusion of such blood into the veins of one not immune will give immunity to the second person.

5. The adduction of reasons for believing this antagonism to be an antimicrobe and not an antitoxin.

In investigating the first and second claim, it is believed by the committee that the literature of the past century seems to take the existence of this law for granted, though no one was found to have so stated specifically. As to the universality of the law and its application to all the forces of nature, this is a feature with which we as medical men have nothing to do.

Regarding the third and fourth claims, the criticism is offered that they are stated with absolute confidence, although based upon no experiment, and although the original contribution of the writer only offers it as a suggestion. He says: "A chicken having recovered from the cholera is possessed of an antagonism to that disease. Now, if its blood be injected into the veins of another chicken, will the antagonism be communicated to the second chicken? * * * Here is a wide field for experiment with all microbic affections and antagonisms."

In the categoric claim he states this as a specific and proved fact, whereas it is only a suggestion. However, this suggestion is not antedated in the literature at our command, and appears to be entitled to absolute priority.

The fifth claim is erroneous and unsupported by any laboratory evidence. On the contrary, its assumption will reopen the fallacy of spontaneous generation.

Respectfully,

WILLIAM KRAUSS, Chairman.

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INJURIES TO INTERNAL ORGANS.

Report of Cases.*

BY J. O. RUSH, M.D.

FORREST CITY, ARK.

In presenting a report of the following cases to this association it is not with a view of bringing forward anything new, but to call attention to what could possibly be accomplished first, by prompt and radical surgical procedure, and second, by practicing conservatism—seeking only to assist nature to overcome these injuries without operative interference.

Case I. George G., colored, male, aged 45, weight 185, height 6 feet, strong and robust beyond ordinary.

About 8 P.M., August 11, 1897, I was called hurriedly to attend this patient, whom I found lying on a railroad track, unconscious, in a pool of blood and with blood still oozing from a small wound in the chest. Thirty minutes before my arrival he had received a stab wound in the fifth intercostal space about one and a half inches internally from a perpendicular line through left nipple, inflicted with a large barlow knife the blade of which was three and three-fourths inches long. Digital examination revealed that the blade of the weapon had passed directly through the chest wall, down through the pericardium and into the body of the heart, making an aperture in the right ventricle sufficient to allow the passage of the index finger. The wound was immediately packed with gauze. Stimulants were administered hypodermatically consisting of strychnin and nitro-glycerin. Pulsations were almost entirely imperceptible.

There was a large gaping abdominal wound extending from the point of eleventh rib downward and forward toward the linea alba about ten inches, cutting through the skin, external fascia, external oblique and transversalis muscles. This injury is mentioned only for the reason that it was while it was being hurriedly closed with three or four sutures that the man began to regain consciousness and remonstrate on account of the pain the suturing was causing him. He soon gave a full account of the difficulty and the circumstances leading up to it, gaining such strength that he could have arisen if permitted. Water and stimulants were freely taken when offered. He was moved in a wagon one-half mile to his home

* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 21, 1902

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and lived until after 10 o'clock P.M., something over two and a half hours after receiving the injury.

Would not an attempt to have closed this fatal wound have been advisable?

Case II. Jesse N., male, aged 25, weight 210, height 5 feet 11 inches, robust, had never known sickness.

On the afternoon of July 1, 1897, this patient was brought to my office suffering from three pistolshot wounds just received, the weapon used being a 38 caliber of a cheap make, though the cartridges were of the S. & W. brand, the range being so close that powder burn was shown. His wounds were received in the back, the assailant firing on him from behind. One ball entered the muscles of the back over the fifth rib some two inches toward the spine from the internal border of the scapula on the right side, and seemed to have done no further damage than to have buried itself in the thick muscles of the back. Another pierced the chest walls on the left side at the eighth intercostal space and some two inches internally from a line drawn perpendicularly from the inferior angle of the scapula, injuring the lung tissue to such extent as to cause spitting of blood. The third ball passed through the chest wall on the right side at the ninth intercostal space some four inches external to the spine and supposedly into the right lobe of the liver.

Nothing further than dressing these wounds externally was done. The man was placed on a stretcher and carried to his home. On the 2d, marked pneumonitis and hepatitis had developed, and a considerable rise of fever on the 3d, which began to subside on the 8th. The treatment consisted of mild cathartics, quinin, and sponging with cold water.

On the 13th he passed from under my observation and was confined in the St. Francis county jail until the September term of court, when he was sentenced to a term in the Arkansas state prison. During his incarceration in jail I saw him once, sometime near the middle of August, when he expressed himself as being entirely well.

After his transfer from jail to prison he was placed to work on one of the State's farms in the Arkansas river bottoms, where he began suffering from chills and fever in November. He was removed to the hospital and there remained until his death, which occurred on March 4, 1898, the prison record showing that death was caused from abscess of the liver, no surgical interference having been made. I can get no report of an autopsy of this case, nor do I know that one was made,

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though I am led to believe from the report I have that the last described wound was the final cause of this patient's death, and that doubtless his life could have been saved had an operation then been performed.

THE DIAGNOSIS OF DISORDERS OF THE CENTRAL NERVOUS SYSTEM.

BY B. F. TURNER, M.D.

MEMPHIS.

To the skilled neurologist the signs which point to lesions of the brain and spinal cord are as readily perceived and as easily interpreted as are those which complete the symptom picture in any of the other fields of the specialist's labors; but it is not improbable that the general practitioner who boasts of no especial training in neurology not infrequently overlooks or misinterprets symptoms which, if properly regarded, point to deep-seated disorders, the overlooking of which leads him far astray.

In the hope that discussion of a few of the more important and most easily observed among the symptoms strictly neurological may be helpful to some present, I have, at the risk of appearing didactic, ventured to select this as my theme.

Incoördination. When the patient complains of dizziness, "swimming in the head," etc., is he necessarily only bilious? That is what he is usually told, is it not? He may be, but the diagnostician errs if he fails to remember other causes which may operate to effect dizziness. The muscular sense—that function by virtue of which the degree of motor activity is regulated, the bodily equilibrium maintained, distance of objects estimated, etc.—may be deranged by lesions of the cerebellum, the sensory tracts of the brain and the posterior columns of the cord, the pons and the medulla. The victims of such lesions cannot stand steadily or walk with the eyes closed, nor perform accurately movements requiring wide excursions of the extremities. With such a symptom present further evidence of the presence of locomotor ataxia, incipient

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* Read before West Tenn. Med. and Surg. Assn., Jackson, May 22, 1902.

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paresis, tumor of the cerebellum, and affections of the brain and of the middle ear (Mēnière's disease), should be sought.

The Reflexes. I cannot here discuss the physiological significance of the various reflexes. Suffice it to say that lesions of the brain which impair its functions, lesions of the cerebellum, of the medulla and pons, and transverse lesions of the cord as low down as the tenth dorsal vertebra, regularly give exaggerated reflexes, while irritative lesions of the cerebral motor tracts, longitudinal lesions of the cord and lesions of the peripheral nerves lessen or entirely abolish the reflexes.

Of the manifestations of pain, hyperesthesia, anesthesia and other sensory disturbances, I need hardly speak, since it would be difficult to misconstrue their significance.

The Viscera. Since the functions of the various thoracic and abdominal viscera are presided over by the sympathetic nerves, which in turn are in touch with the central nervous system, derangements of the same may be, and often are, manifestations of grave neurological lesions. Of these, derangements of the bladder are perhaps among the most significant. Difficulty of micturition, or incontinence of urine, or retention of urine, regularly accompany lesions of the cord, and often of the higher centers. Constipation regularly accompanies lesions of the cord, but this may be varied by occasional storms of severe colic, with profuse diarrhea—the so-called intestinal crises. Severe gastralgia and vomiting are frequent accompaniments of cord, cerebral and cerebellar lesions—the so-called gastric crises. Cardiac distress and palpitation are frequently seen, with lesions of the central axis, though these are often enough seen also in the functional disorders.

I do not assume that the symptoms above set forth are due to lesions of the central nervous system in the majority of instances, but I beg to suggest that such is their significance in many cases, and that for the diagnostician to ignore the possibility of such significance is to lay himself liable to serious criticism, and is manifestly a remissness in the discharge of his responsibilities.

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GUNSHOT WOUNDS OF STOMACH AND BOWELS

As Presented to the General Practitioner. Report of Case.*

BY J. S. RAWLINS, M.D.
DANCYVILLE, TENN.

THIS paper is intended to apply to the treatment of these injuries by the country practitioner, and at places inaccessible to the advice and services of skilled surgeons. These patients when possible should always be placed in surgical care. But unfortunately a large number are unable either from poverty or distance to procure such aid, and the general practitioner has the responsibility of the case to assume. And the question arises, Are the methods of treatment of gunshot wounds of the abdomen, as advised and practiced by our most advanced surgeons, to be adopted and practiced by the general and especially country practitioner? or in other words, are surgical conditions of the abdominal cavity invariably to be treated by surgical methods? And if not, why not?

In the first place the general practitioner is not a surgeon, and while he may do some general surgical work satisfactorily, he lacks the technical knowledge, that knowledge born of experience, and the erudite touch, so necessary to him who invades the abdominal cavity. He must have at hand trained assistants, and every appliance necessary to meet any unforeseen complication that may arise. He should be master of the situation, familiar with every detail of the technic of different operative procedures, fully conversant with the manifold complications with which he may be confronted. The most absolute asepsis in all its details must be observed, or an operation will but add increased traumatism, shock, hemorrhage and sepsis, to what might have been a simple aseptic wound. These operations to be successful must be immediate, and should be based upon an absolute diagnosis of gastro-intestinal perforation, or immediate dangerous hemorrhage from some of the abdominal viscera.

This diagnosis is very difficult and sometimes impossible to make. The symptoms are not to be depended upon. The

* Read before West Tenn. Med. & Surg. Assn., Jackson, May 22, 1902.

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shock is likely to be as great in a non-penetrating wound as one which penetrates or wounds the abdominal viscera. The symptoms, hemorrhage and shock, go hand in hand, and are hard to separate, except that shock is more immediate than hemorrhage or its symptoms. The probe—now almost a relic of antiquity—no matter how aseptic, should not be thought of. Hydrogen gas for rectal injection is never at hand, and while commended by some of our best surgeons as a means of diagnosis of intestinal perforation, is as much condemned by others.

Under such circumstances the momentous question comes up, Shall we advise or perform a laparotomy, follow up the track of the bullet, turn out the blood clots, arrest the hemorrhage and repair the lesions? A very easy thing to advise. But what are the lesions, and whence the source of the hemorrhage? If you have the experience and surroundings of a Senn or Wyeth, to meet conditions as you find them, to perform a nephrectomy or a splenectomy if you find it necessary to remove a torn and bleeding kidney or spleen, or to repair any intestinal injury that you may find, and do it quickly, you might properly proceed with an operation. But, as before said, it would be but adding shock, hemorrhage, sepsis and certain death, if you are not prepared and qualified to meet these conditions, should they arise. In what respect is the country practitioner or his patient, who is generally poor and in an insanitary condition, more favorably situated for an operation than the army surgeon and his patient at the division hospital? It is presumed that the army surgeon is an experienced operator and has at hand trained assistants and everything required for an operation. What were the results and experience derived from these operations and injuries during the recent Spanish war? Prof. Senn says he looks "more hopefully for more successful results in the operative treatment of gunshot wounds in military practice, although experience so far does not seem to strengthen such an expectation. Four laparotomies were performed in the first division hospital for perforating wounds of the abdomen — the only ones to my knowledge during the Cuban campaign. All the patients died."

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I further quote him: "Quite recently the assertion has been made by several prominent surgeons that laparotomy should be performed in all cases in which it has been shown that penetration of the abdomen has occurred. It must however be admitted that in the absence of serious visceral lesions, penetrating wounds of the abdomen are injuries from which the patients are likely to recover without operative treatment, and when such patients are subjected to laparotomy and prolonged search for visceral lesions, death may occur solely in consequence of the operation. * * * I saw a number of cases of penetrating wounds of the abdomen, in the first and third division hospital in front of Santiago, that were in a fair way to recovery without operation before they were sent home in transport ships." I have entered this subject more freely, from the fact that the opinion is prevalent that all gunshot or other wounds penetrating the abdominal cavity should receive immediate operative treatment. And while such a procedure may be best in some instances, especially by skilled surgeons, from the view point of a general practitioner, I would say go slow, pursue a more conservative treatment, and be at least sure that your patient has died a natural death.

Gunshot wound of stomach.

Marshall T., white boy, aged 8 years, of delicate constitution, dyspeptic and rheumatic, while at play, was accidentally shot with a No. 32 caliber pistol, twenty-five feet distant. The wound was received while in a stooping posture, while in the act of picking up his hat. The ball entered the abdominal cavity two inches to the left of the median line, and grazing the edge of the ensiform cartilage, ranging to the right and downward, passing into and probably through the stomach into the abdominal cavity. He fell profoundly shocked, and was carried to his home some one hundred yards distant and restoratives administered. Two hours later I found him still suffering from profound shock, pulse weak and rapid, intense pain, anxious expression of face, and some sick stomach, and had vomited some blood. Dr. Ware, who had arrived earlier, had examined the wound, and had given a hypodermic of morphin and strychnin. Being satisfied from the symptoms that the ball had penetrated the stomach, no attempt was made either to probe the wound or locate the ball. A first aid dressing of moist bichlorid gauze was placed over the wound, warmth was applied to his extremities, and he was enjoined

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to keep absolutely quiet. Hypodermics of morphin and strychnin were given as needed to ease the pain and support the heart's action. To allay his thirst, which was very great, he was allowed cracked ice or small quantities of water to be held in his mouth, and also four ounces normal salt solution, per enema, every few hours. These enemas were made small, as we desired their quick absorption, the prevention of intestinal peristalsis, their expulsion, and the danger of increasing abdominal hemorrhage.

The next and all important question was, what shall we do? This is a surgical condition; the stomach has evidently been perforated, and very probably there is considerable abdominal hemorrhage. Shall we treat him surgically, advise an operation, follow up the course of the bullet, turn out the blood clots, and repair the damage done the stomach and other viscera? In the meantime the patient had become quieter, pulse had improved in volume, with face expression more natural, with the indications that no active hemorrhage was taking place. The wound being high, and through probably an empty stomach, as he had had no food since breakfast, and the wound was received at noon, we decided to keep his stomach empty, meet the indications as they might arise, and trust to nature. In ten or twelve hours reaction took place, with a temperature of 103° and pulse of 140, which gradually subsided during the next twenty-four hours to temperature of 101°F. and pulse 120. During this time he vomited about a pint of disintegrated blood, which had evidently been retained in his stomach since the reception of the wound; while suffering frequently from nausea, he had no other vomiting. He was kept quiet with morphin hypodermically as needed. To allay thirst normal salt solution was continued every few hours, when at the end of twenty-four hours liquid aliment was substituted. At the period of forty-eight hours his bowels being very much distended, with the pressure producing great pain, a rectal tube was introduced some twelve or more inches, through which a considerable amount of gas was discharged, after which a high enema was given, which produced a normal action from his bowels. In the meantime a general peritonitis had set up, with bowels swollen, very tender to touch, especially in the right iliac region.

It is useless to follow up the details of treatment from day to day. He was kept quiet with morphin as needed; his stomach was kept absolutely empty until the fifth day, when his rectum becoming irritable we saw that he could not much longer be supported in that way, and commenced the use of teaspoonful quantities of easily digested nourishment by his

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mouth, which occasioned considerable pain at first, but was retained and relished. Various things were resorted to, such as whipped egg albumen, whipped cream, chicken and beef tea, malted milk, gelatin, etc. These articles were given in small quantities for a week, when they were gradually increased and other articles of a like character added to his dietary.

His recovery has been continuous but very slow. Now, six weeks since he received the wound, he is able to play about the room. As soon as he can safely stand a trip I purpose having the bullet located if possible by the X-ray.

Upon examining the patient yesterday I found his general condition good, but complaining of pain in his left leg and unable to bear his weight on it, also some tenderness and fullness in the left lumbar region almost directly under the kidney. When first shot he complained of burning pain in this leg, and thought he was shot in his leg until told otherwise. I am confident from these symptoms that the ball passed directly through the greater curvature of the stomach and found a lodgement behind the left kidney.

In conclusion I wish to state that I am under obligations to Dr. Ware, of Stanton, who was my associate in the treatment of this case, for his valuable assistance and other courtesies.

PERNICIOUS MALARIAL FEVER.*

BY A. E. COX, M.D.
MILAN, TENN.

Pernicious malaria, commonly spoken of as congestion, is, in this section of country, occasionally met by most practitioners, and in intensely malarial districts this condition during the hot season is of every-day occurrence.

The term congestion, as it is commonly applied, means one of the different types of pernicious malaria, but in its strict sense the word indicates one of the several stages of inflammation. With every chill we have more or less of that condition commonly known as congestion, its degree being determined by the intensity of the infection, and the intensity of this infection depends on predisposition, kinds of parasites, and anatomical lesions.

The mode of infection is a question about which much has

* Read before the Gibson County Medical Society, Trenton, Tenn.

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been both said and written within the past few years. Since the discovery by Laveran in 1880 of the specific parasite in the blood, and later confirmed by Marchiafava, Celli and Golgi, and more recently by Councilman, Osler, Dock and others, we have come to consider malaria an infectious disease caused by the hematozoon of Laveran. Most text-books have taught that the respiratory tract is the channel through which infection gains entrance to the body; also the digestive tract as a medium has received some support from our writers; but the inoculation theory seems of late to be the most popular, and, in the humble judgment of the writer, it is the most rational. Koch's studies of malaria in South Africa indicate that the disease is transmitted by the mosquito. He, as well as many others, has demonstrated that the constant use of mosquito netting effectually prevents anyone from becoming infected, although he may drink water from the marshes of the Roman Campagna and sleep on a batch of straw placed on the ground. Bignami, one of our most eminent writers and teachers on this subject, sums up all that has been said in the following: "This much at any rate we can assert, namely, that inoculation is the only mechanism of infection which has been demonstrated experimentally."

There are many other interesting points along this line which I would like to refer to, but wishing to make this paper brief and practical, I must desist and revert to my subject.

On the morning of August 10th last, I was telephoned to come out to see E. G., female, aged 17 years, married. Previous history: She had had measles, whoopingcough, and about four years ago an attack of malaria of some severity; she began to menstruate at the age of 14, and had had menorrhagia and dysmenorrhea since the establishment of her flow. The evening before I saw her, she was taken sick suddenly about 7 o'clock with a chill. At 10 o'clock the next morning, I saw her with a temperature of 102½°F., pulse 112 per minute, tongue heavily coated, skin slightly discolored, some headache and a violent backache, abdomen tender and moderately distended, and there was present some nausea and vomiting. My diagnosis was remittent malarial fever, with moderate congestion of the stomach and bowels. I began treatment by giving her calomel and soda, one grain of each every two hours, until her bowels should move freely, which

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occurred after she had taken six grains of each. For the fever I gave aconite, f. e., one-half minim, every two hours; for headache I gave acetanilid, two and a half grains, caffein cit., three-quarters of a grain, and Dover's powder, two and a half grains, and ordered the dose repeated in three hours if necessary; quinin bisulphate, in five-grain doses, was given every three hours. I saw her again twenty-four hours later, and her symptoms were all intensified, with some epistaxis occurring every few hours, which was promptly relieved by the injection into the nose of strong lemon water. Treatment continued, with strychnin sulphate, one-sixtieth grain every four hours added for the heart, which had become more frequent and not so strong in systole. Sponging was ordered to control the fever, which was then 103½°F. Again I saw her twenty-four hours later, with slight improvement of nausea and vomiting, but all other symptoms worse; her abdomen was very tender and considerably distended; turpentine stupes were ordered for the relief of this symptom, and three grains of salol were added to each capsule of quinin; strychnin was increased to one-thirtieth of a grain every four hours, and aconite discontinued. Six hours later I saw her, having had Dr. C. called in consultation. Her symptoms by this time were as follows: Pulse 140 per minute and weak, temperature 105° F. in the axilla, tongue coated brown and very dry, abdomen distended and so tender that the least jar caused by walking over the floor was painful; her bowels had not moved for forty-eight hours, notwithstanding she had taken twelve grains of calomel and soda; her kidneys were acting fairly well; she was sweating profusely; skin was cold and clammy. We readily agreed that something must be done, in addition to what had already been done, to stay the process of this disease, as all symptoms had grown steadily worse. She was well cinchonized, as evidenced by tinnitus aurium, she having taken two scruples daily of quinin bisulphate. I suggested more quinin, to which Dr. C. agreed, and we gave her hypodermically one dram of quinin hydrochlorate, strychnin sulphate in one-thirtieth grain dose, every three hours, which were continued, and cold sponging to control the fever was administered; we also gave a quarter of a grain of morphia, with one-fiftieth grain of atropia sulphate. I saw her ten hours later; no improvement. I repeated the puncture of quinin hydrochlorate and of the morphia and atropia. At 2 P.M., twenty hours after first puncture of quinin, her bowels moved freely, and at 6 P.M. her condition was slightly improved. During the night her bowels moved four times freely, her kidneys continued to act well, and by next morning all symptoms had improved;

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her abdomen was not so tender and the tympanites was not so marked. Quinin bisulphate was again administered by the mouth, in five-grain doses, until she was well on the way to recovery. She steadily improved until the 20th, at which time I dismissed her, after prescribing a good tonic of strychnia, iron, quinin and arsenic.

EXPERIMENTS WITH A MODIFIED FORM OF QUININ.

BY A. B. COOK, M.D.

CHICAGO, ILL.

THE constantly growing demand for quinin has stimulated chemical investigation, and as the result of these researches a large variety of products, chiefly of the coaltar series, have been discovered, none of which, however, can be regarded as an efficient substitute, although some of them have proved of more or less value as antipyretics and antineuralgics. Quinin has always enjoyed the distinction of being one of the most important therapeutic agents in the materia medica, and yet its unpleasant effects detract from its beneficial properties in not a small number of instances, and are a frequent source of annoyance to the physician. The number of true quinin derivatives, that is to say, synthetic combinations of which it is a component, is quite scanty, and none of them has shown itself able to replace quinin in all its therapeutic indications. Lately, however, my attention was directed to a new combination of quinin with an ester of salicylic acid, which promises to be a decided advantage over previous efforts in this direction. In saloquinin we have a perfectly tasteless preparation, combining the effect of quinin with that of salicylic acid and yet devoid of the objectionable features of both of these remedies. As will be shown more in detail in the following cases, during the administration of saloquinin there is no nausea nor vomiting, no tinnitus, headache, etc., such as are so frequently encountered during the administration of quinin and the salicylates. It will be remembered that salicin, whose active ingredient is salicylic acid, has been quite extensively employed as a substitute for quinin in malarial conditions, and hence it occurred to me that a combination of quinin with salicylic

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acid, as in saloquinin, will tend to enhance its antiperiodic, antipyretic and analgesic properties. What the new preparation will do is demonstrated in the subjoined cases.

Case I. Mr. P. came to me complaining of frequent attacks of neuralgia, the chief nerves affected being the facial and cervical. He gave a history of malarial fever, leading me to believe that in this we had a cause for the neuralgia. The patient was decidedly anemic. Quinin, though relieving him to some extent, was on the whole unsatisfactory. I gave him fifteen grains of saloquinin three times daily, obtaining results surpassing any I had ever secured from quinin in these conditions. What so favorably impressed me with saloquinin in this case was the absence of the unpleasant effects that had attended the administration of quinin to this patient on former occasions. This was true to such an extent that he was rather averse to taking quinin, and in fact asked, when he came to see me, whether there was not something else that he could take in the place of it. He seemed to be very susceptible to its effects, and when given in sufficient doses he developed symptoms of cinchonism with marked gastro-intestinal disturbances. Saloquinin, however, was not only a more efficient antineuralgic, but was free from these objectionable features. This was surprising to me; as salicylic acid, which is one of its components, is apt to irritate the stomach.

Case II. A man aged 32 years had been working in a place where he was exposed to cold and dampness. Symptoms of sciatica came on gradually, there being constant pain with severe paroxysms. The pain was referred to the entire area of distribution of the nerve, from the region of the hip along the posterior aspect of the thigh to the calf of the leg and sole of the foot. There was marked tenderness over the entire area with a slight herpetic eruption. The treatment was as follows: The patient was kept quiet in bed, with the application of heat, lead water and opium to the affected parts. I was compelled to give hypodermics of morphin to control the pain. Believing that it was of rheumatic type, I considered that saloquinin was indicated, and this drug was given in fifteen-grain doses every four hours with very good results. I believe that if saloquinin had been administered earlier the severity of the disease would have been reduced.

Case III. A man aged 24 years, single, was exposed to a cold rain and wind, but during the three days following felt no inconveniences, and was able to go about and perform his duties. On the fourth day there was general malaise, and later

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in the day a sudden chilliness and a severe chill followed by a rise of temperature to 104°F. The patient vomited, fainted, and showed the characteristic symptoms of marked physical weakness and nervous prostration, amounting to actual collapse, a condition which is present in a greater or less degree in every case of la grippe. This patient had the nervous form of the disease, which is accompanied by headache, insomnia, neuralgic pains in the back, sensitiveness to light and sound, and hyperesthesia of the skin. He was forced to take to his bed, and an attendant was placed in charge to give special care to keep him quiet and to aid in preventing prostration. Cold baths were resorted to for reducing the fever, but with little effect. Acetanilid, phenacetin and antipyrin were of some service, but not to the extent desired. The salicylic acid compounds were also employed, and to obviate the depressing effects of these drugs caffein, strychnin and camphor were given in combination with them. But even with these stimulants the patient could not stand the unpleasant effects of quinin, which caused deafness, vertigo, ringing in the head, and was also irritating to the digestive organs. As last saloquinin was resorted to, and its effects were promptly manifested. Large doses (ten to fifteen grains) were given every hour, and in a few hours its antineuralgic and antipyretic action was satisfactorily demonstrated. The patient sweated freely; the temperature dropped to normal; the pulse was slightly above the normal, but full and strong. Patient slept well; his appetite was restored, and he went on to a rapid recovery. Saloquinin had broken up the disease.

OPERATION FOR VARICOCELE WITH UNUSUAL TERMINATION.

BY W. J. ROBINSON, M.D.
PORTIA, ARK.

L. R., aged 27, was operated on for left varicocele on Oct. 17, 1901, at 10 A.M. There was no indication of any unusual state of patient's blood or general health, he being robust and in good physical condition. The operation was very simple, and consisted in the injection of a 4 per cent. solution of cocain into the scrotal tissue at about one inch from its attachment to the body on left side, cocain being the only anesthetic used; an incision one inch from above downward was made and a ligature thrown around the vein after careful separation from the cord and nerves. The ligature was aseptic and was cut short and replaced within the scrotum. The wound region

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was thoroughly douched with sterilized hot water. Iodoform was dusted over it and a gauze dressing applied.

No pressure was made at my first visit, just twenty hours after the operation. I found the scrotum and contents swollen to three times the natural size, and the whole dark and beyond recall gangrenous to within half an inch of attachment to the body. The patient was put on heavy dosage of tr. chloride of iron, a saline purgative, and hot fomentations locally applied and continued for several days.

On the third day the line of demarcation was completed, and by the fifth sloughing was well advanced. Potassium permanganate in weak solution was injected at close intervals under the integument into the cellular tissue. Over the whole surface of the scrotum by the seventh day the integument had all been removed, together with the cellular tissue, and the testicles stood out without covering like grapes on the stem, and their size was that of goose eggs. Their circulation appeared good, and several times daily thorough dressings were made. For back and between and under the testicles the sloughing was removed, and with a syringe antiseptic douches were forced back to the base of the slough. Granulation began apparently all over the region and continued till the testicles were inclosed in separate coverings, by which time (November 18th) the testicles had returned to normal size. The circulation and vitality of the testicles appear now to be normal.

The strange features to me in the case are, 1st, cause of the swelling of right testicle: 2d, the extreme swelling of scrotum and death of same, with subcutaneous cellular tissue.

An Epidemic of Ringworm.—The occurrence of a "small epidemic of *microsporon Audouini*" has been reported by Dr. Gunsett, of Strassburg. This type of ringworm forms between 80 and 90 per cent. of all cases in this country, and 60 per cent. of the cases reported in Paris; but it is unusual in Germany or Italy, and is very rare in the eastern parts of Europe. Until two years before Dr. Gunsett's report the *microsporon Audouini* was unknown in Strassburg; and during the intervening past two years there were but four cases reported. The recent small epidemic included seven perfectly typical cases. The scalp alone was affected. The patients were all boys, whose ages ranged between seven and nine years.—*Med. Press & Cir.*

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PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

Hospitals for the Neuropathic and Psychopathic.

R. Dewey (*Jour. A. M. A.*, vol. 39, no. 13), in his chairman address before the section on neurology, at the last meeting of the American Medical Association, presents this summary of his views:

1. It is evident that there is great need of special hospitals where the neuropathic and psychopathic can receive treatment with the aid of all the advancement and skill of the present time. The neuropathic are, to a great extent, also psychopathic, but not insane as the word is ordinarily understood, although technically there is no difference between the psychoses of the neuropathic and what is medically termed "insanity," the difference being one of degree rather than of kind.

2. It is difficult or impossible in practice to place all the neuropathic in one group or location and all the psychopathic in another. They are inextricably commingled, the same persons frequently passing from one class to the other or belonging in both at once. The delirious, the maniacal, the epileptic, the frenzied, the auto- or hetero-intoxicated person of today is the quiet, rational sane person of tomorrow, and many of the neuropathic are affected with psychoses.

3. If the turbulent, maniacal and otherwise objectionable patients are provided for in a wholly separate department, it is possible, where two separate institutions cannot be afforded or maintained, to provide suitably for both neuro- and psychopathic on the same premises in detached buildings arranged for suitable classification. Constructive and administrative arrangements that are perfectly feasible would enable objectionable patients to be so located and so changed from time to time that appropriate surroundings will be provided for all.

4. The hospitals required may be either additions to existing institutions or separate establishments. The circumstances

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must differ in every community, and great flexibility will be necessary in the various arrangements according to members of different classes, location, means available, etc.

5. The word "insanity" has outlived its usefulness; it has no power as a definition in a technical sense, either medically or legally, and its popular use is confused and unsatisfactory. Etymologically the word is an absurdity. No acceptable definition of insanity has ever been formulated. "Psychosis" is a preferable term.

6. The legal questions relating to commitment to these hospitals would need legislative adjustment. Admission could be largely voluntary as to any hospital. Voluntary commitment as provided for legally now in many states of the Union would remove the difficulty in a large number of cases. It is understood no one should be under involuntary confinement without legal warrant, and suitable safeguards should be provided.

The Importance of Diagnosis in Skin Diseases Considered Generally and as Applied to Particular Diseases.

I. Dyer (*Med. News*, vol. 81, no. 13) says there are three cardinal points in the diagnosis of skin diseases:

1. The location of the disease is the first point of study; (2) then the distribution on the particular region on which it occurs; (3) the arrangement of the component parts, or lesions. The lesions themselves must be studied in detail so as to classify the disease.

Besides these cardinal points there are certain points in diagnosis which are important in their value as guides.

(*a*) Eruptions which are bilaterally symmetrical are either constitutional in origin or are exposed to the identical local cause on both sides of the body.

(*b*) Parasitic diseases are found on the flexors preferably, or on the exposed parts of the body.

(*c*) The more chronic diseases of the skin become the deeper the color; on the other hand, the brighter and more vivid the color the more acute the disease. Scales are the evidence of chronicity; likewise ulcers and scars.

(*d*) Fluid lesions seldom itch. Papular eruptions almost always itch.

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(*e*) Single ulcers are almost always syphilitic, trophic, traumatic or malignant; multiple ulcers are tubercular, syphilitic or malignant.

(*f*) On the face ulcers are seldom due to other causes than cancer, syphilis or tuberculosis.

(*g*) The color of eruption on the Caucasian is always important in diagnosis. Syphilis is pigmented brown or buff as its eruptions fade or disappear. Leprosy is always shaded brown or purple. Lichen ruber is always violaceous or white. Psoriasis is always pale red, covered with white scales. Seborrheic eczema is always yellow red with greasy scales.

(*h*) The odor in skin diseases is important. Syphilis, when ulcerating, smells rancid; favus smells mousy; varicose ulcers smell sweet; neurotic ulcers, or those of leprosy, are nauseous, foul and intense; rodent ulcer has a smell of rotting meat.

The Leucocyte Count in the Summer Diarrheas of Children.

J. H. M. Knox, jr., and L. M. Warfield (*Bul. Johns Hopkins Hospital*, vol. 13, no. 136), from an extended series of observations, conclude that:

1. A differential count of leucocytes in the blood of well children under two years of age, when compared with the blood of adults, shows that there is a relative increase in the small mononuclear elements and a decrease in the number of polymorphonuclear cells.

2. In the summer diarrheas of infants the number of leucocytes in the blood is usually increased, but the count of the white cells varies within such wide limits, even in the milder forms of the affection, that a high or low leucocytosis cannot be regarded as of diagnostic value.

3. In the simple dyspepsias of childhood a differential count of the leucocytes does not show any marked variation from that of a healthy infant, but as the cases become more severe in type there is apparently a progressive increase in the polymorphonuclear neutrophile cells and a decrease in those of the small mononuclear variety, thus presenting a picture more like that of adult blood.

4. As pointed out by Japha, the polymorphonuclear leucocytosis is an indication of an intoxication with decomposition

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products in the intestine or of the toxins of pathological bacteria; i. e., it takes place both in the cases of acute intestinal poisoning and in the more severe forms of ileocolitis.

5. The cases of simple infantile atrophy present a nearly normal differential leucocyte count, but it would seem that an increase of the polymorphonuclear cells may indicate the setting in of an inflammatory intestinal complication.

Infantile Tabes.

Kaufmann, at the Vienna *Gesellschaft der Innere Medizine* (Cor. *Med. Press & Cir.*, vol. 74, no. 3300), showed a boy, æt. 10; had always been healthy with the exception of measles when 4 years old. Three years ago incontinentia urinæ in the form of enuresis nocturna commenced and still exists. One year ago the gastric crisis commenced, which has assumed the form of pain, vomiting, and even fits every three or four weeks, lasting two or three days at a time. After forty-eight or seventy-two hours the attack gradually recedes, and is succeeded with a day's very severe thirst. During the interval the boy is fairly well with a good appetite, and can eat anything without the slightest discomfort.

At the present time there is pupillary spasm, loss of patellar reflex, undoubted Rombergism and incontentia urinæ; beyond this there is no other loss of either motion or sensibility.

The papilla of fundus in left eye was pale, without any further very marked pathological changes. The deep and cutaneous sensibility of the extremities were intact. There was a decided thickening of both radial arteries, as well as deeper outline of the stomach on percussion. No symptom of acquired syphilis could be discovered. The mother had two other healthy children, and never had had an abortion; the father was not examined.

The whole symptoms, though complex, have an appearance of genuine tabes dorsalis occurring in a boy, æt. 7, who had always been well till this incontinentia urinæ commenced last year.

Against the assumption of it being paralysis is the perfectly normal and healthy condition of the mind; his intelligence is good, as the testimony of his teacher is that he is as well

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forward and mentally active as any other of his boys in the school.

Pseudo-tabes may equally be dismissed from our diagnosis, as Kalischer tell us that children suffering from this are more or less nervous, having symptoms of lues with psychic phenomena, transient forms of cramp, paralysis, epileptoid attacks, etc., etc.

Tetanus and Vaccination.

J. McFarland (*Proc. Phila. Co. Med. Soc.*, vol. 23, no. 1) after an analytical study of 95 cases of this rare complication concludes that:

1. Tetanus is not a frequent complication of vaccination, a total of 95 cases having been collected.

2. The number of cases observed in 1901 was out of all proportion to what has been observed heretofore.

3. The cases are chiefly American, and occur scattered throughout the eastern United States and Canada.

4. They have nothing to do with atmospheric, telluric or seasonal conditions.

5. They occur in small numbers after the use of various viruses.

6. An overwhelming proportion occurs after the use of a particular virus.

7. The tetanus organism may be present in the virus in small numbers, being derived from manure and hay.

8. Occasionally, through carelessness or accident, the number of bacilli becomes greater than usual.

9. The future avoidance of the complication is to be sought for in greater care in the preparation of the vaccine virus.

SURGERY.

UNDER CHARGE OF W. B. ROGERS, M.D.
Professor of the Principles and Practice of Surgery and Clinical Surgery, Memphis Hospital Medical College.

Appendicitis.

At a meeting of the Paris Academie des Sciences, M. Lannelongue (Cor. *Med. Press & Cir.*, vol. 74, no. 3301) spoke on appendicitis and its causes. He said, before the true nature

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of the affection was known, it was generally considered as acute peritonitis. In order to verify this assertion, he obtained a list of all the cases of non-tuberculous peritonitis treated at the Hospital Trousseau during a period of five years, commencing in 1885, and also the cases of appendicitis for a similar period from 1895 to 1899, and found the number of cases were very nearly the same. For the former 470 cases were recorded, and for the latter 490.

As to the causes of the affection, they were evidently due to the bacterian flora of the appendix. A certain value should be attributed, however, to the nature of the organ (closed vessel theory), and also to the eating of too much meat. The rôle played by worms, as demonstrated by Metchnikoff, appeared to the speaker beyond doubt, for those parasites loaded themselves with microbes, wound the intestine and frequently penetrate the appendix.

Surgical Treatment of Empyema.

C. N. Dowd (*Med. News*, vol. 81, no. 11), in a report based upon seventy-five cases, concludes his observations with the following summary:

1. For simple cases of empyema the following treatment is used: Excision of about one and a half inches of the seventh or eighth rib in the posterior axillary line; light ether anesthesia is usually employed; the purulent coagula are removed; short rubber tubing, cut partly across, doubled and held by large safety pins, is used for drainage; abundant gauze dressing is applied, and changed when saturated.

2. If the patient's condition contraindicates general anesthesia, an incision into the chest may be made between two ribs under cocain anesthesia.

3. Aspiration is used only to give temporary relief in patients who are in great distress from the pressure of the fluid, or temporarily to relieve the second side of a double empyema after the first side has been opened.

4. The patients are allowed out of bed as soon as is practicable, and the expansion of the lung is encouraged by forced expiration.

5. Irrigation is used only where there is a foul-smelling discharge from necrotic lung tissue.

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6. Secondary operations are not done until good opportunity has been given for healing; usually three or four months should have elapsed after the primary operation, and there should have been no noticeable improvement for about a month.

7. In the secondary operation the expansion of the lung should be encouraged by incising, stripping back and, if necessary, removing portions of the thickened pulmonary pleura.

8. The examination of forty-four of the patients at long periods after operation indicates that recovery is usually complete in the simple cases, and that there is surprisingly little deformity in most of the severe cases.

OPHTHALMOLOGY.

UNDER CHARGE OF A. G. SINCLAIR, M.D.

Professor of Ophthalmology, Otology and Laryngology, Memphis Hospital Medical College; Ophthalmic, Aural and Laryngeal Surgeon to St. Joseph's Hospital; Ophthalmic and Aural Surgeon to the City Hospital.

Investigation in Quinin Amaurosis.

Druett (*Archives d'Optalmologie*). Druett has analyzed the writings on quinin amaurosis, and refers particularly to the work of Ward Holden, who has observed progressive degeneration of the ganglion cells of the retina after the third day of intoxication, and that of Nuél, which confirms the findings of Holden, and who also noted chromatolysis of the same cells in a case of blindness lasting but one day. The pathogenesis of the condition, however, he says, is still unsettled. Uthoff believes the changes in the retina and nerve to be the results of circulatory disturbance.

The author in his experiments employed quinin chlorohydrosulphate in a 10 per cent. aqueous solution, of which he injected hypodermatically the equivalent to sixteen and a half to twenty centigrams of the alkaloid. Most of the animals were intoxicated by a single injection. They were killed by illuminating gas and the eyes were studied by the Nissl method.

The symptoms of intoxication were vomiting, unconsciousness, general paralysis, ataxia and convulsions, amaurosis or amblyopia, mydriasis and fundus-changes.

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The amaurosis and mydriasis are simultaneous, beginning two or three hours after the injection, and attaining a maximum four hours later. The fundus changes consisted of general anemias, and at times of a different haze. The primary anemia developed the first day, and was quite variable in degree. As a rule the vessels were reduced to one-third their regular diameters. The secondary anemia in a typical case was much more marked and seemed to be dependent upon the destruction of the retinal cells. The changes in the retina consisted in rapid destruction of the ganglion cells, the cell-body changes being more rapid than those of their nuclei. When the tissues were studied by the method of Nissl, there appeared first, a hypercoloration with a later hypocoloration, and a final disappearance of the cell. These changes were noticed as early as the fifth hour after the injection. The ganglion cells, he says, were rarely all destroyed; those of the central regions usually persisting in part; a fact which explains the persistence of central vision in this condition in man.

This isolated destruction of the ganglion cells argues, he believes, for a selective action of the poison, rather than its having been produced by ocular anemia. The lesions were always similar on the two sides. The optic nerve changes consisted simply of Wallerian degeneration.

The author has employed neurotomy on one side and has injected quinin at varying periods later. He found that the cells where nutrition was so modified, failed to undergo the usual changes, although on both sides the vaso-constriction was equally well pronounced; this fact, he says, is incompatible with the vascular theory of quinin amaurosis.

Various other operations were performed, but with negative results in every instance. The retina of the dog, he states, is not fully developed at birth and negative results were obtained until the animal reached the age of fifteen days. At the age of fifty days the changes were similar to those that are produced in the adult dog. This observation also argues for the nervous theory of the amaurosis, though it is possible, Druett says, that the vascular development may be analogous to that of the nerve elements.

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Positive results were also obtained with cats, but the author's experiments on birds, mice, monkeys and guinea pigs were all negative.

The author concludes that the multipolar cells of the retina, and especially those of the dog, present a particularly marked susceptibility to quinin intoxication; a selective action which is similar to that of curare on the nerve centers.—*Ann. of Oph.*

NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary, and to Presbyterian Hospital.

The Nerve Element in the Diseases of the Ear, Nose and Throat.

W. B. G. Harland (*Phila. Med. Jour.*, vol. 10, no. 8) discusses the relationship existing between the ear, nose and throat and the general nervous system, and emphasizes the necessity for the specialist to make a careful study of general as well as local conditions. The author has seen a number of persons who have sought treatment for ear and throat symptoms which were found chiefly to be due to general nerve asthenia. The symptoms were not in every case severe, but their persistence rendered the patients uncomfortable and unhappy. Some or other of the following symptoms were present in these cases. Recurring colds in the head; frontal and occipital headache, usually present in the morning; fullness and tightness at the root of the nose; neuralgic pains of the head; obstructed breathing; dryness of the pharynx; desire to cough and clear the throat, the sensation of a lump in the throat, huskiness and momentary loss of voice; tinnitus, deafness, momentary attacks of aural vertigo and lightheadedness; occasional snapping and cracking in the ear, and hyperesthesia of the auditory nerve for certain sounds. Anyone of these symptoms can occasion much distress, and any relief will be gratefully welcomed by the patient.

The pathological conditions present in such cases can be grouped as follows:

1. *Neurasthenia.* This is evidenced by subjective symptoms; also by general hyperesthesia and vasomotor instability, causing local irritability and local congestions.

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2. *Chronic catarrh.* Vasomotor weakness predisposes the nasal membrane to catarrhal congestion, which process may extend to the throat and to the ear.

3. *Local lesions.* Such as hypertrophies of the turbinates, deflections and spurs of the septum, nasal polypi, atrophic rhinitis, empyema of the sinuses, adenoids, hypertrophied tonsils and swellings at the base of the tongue; in the ear—impacted cerumen, catarrh of the Eustachian tube and middle ear, disease of the internal ear.

These three factors reacting upon one another may produce symptoms and pathological changes out of all proportion to the size of the original local defect, and treatment, to be successful, must be directed against all three.

Tuberculoma of the Larynx.

S. Bentzen, at the 1901 meeting of the Danish Society of Otology and Laryngology (*Revue hebdom., de Laryg., d' Otol., et de Rhin.*, vol. 23, no. 31) read an interesting paper on this subject. Tuberculomas of the larynx are distinctly circumscribed, covered with smooth and nonulcerated mucous membrane and enclose giant cells. When these are primary they may give rise to errors of diagnosis. The author reported the following case:

A man, 26 years of age, has been hoarse for three years, and is now being treated for pulmonary phthisis, which has been much ameliorated by treatment. The larynx is red and hyperemic, especially at the surface of the vestibule; there is very little swelling of the arytenoid and interarytenoid regions. The anterior portion of the right cord is covered by a tumor of the size of a pea, with a smooth surface inserted along the left ventricular band, and is movable during respiration. This was ablated with the double curette of Landgraf. The voice still remains slightly harsh, and the hyperemia of the vocal cords persists. Microscopical examination gave the following results:

The epithelium which covers the tumor is wanting in several places, but where it exists it is altogether normal. The submucous tissue is infiltrated with round cells; some vessels are engorged with polynuclear cells; there are several heaps of giant cells.

According to Dr. Claudius, who examined the sections, the absence of epithelium did not indicate a beginning ulceration, but was due to the maneuvres of extraction.

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GYNECOLOGY AND OBSTETRICS.

UNDER CHARGE OF T. J. CROFFORD, M.D.
Professor of Gynecology, Memphis Hospital Medical College,
AND
W. D. HAGGARD, M.D.
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Professor of Gynecology and Abdominal Surgery in University of the South (Sewanee) Gynecologist to the Nashville City Hospital; Professor of Gynecology, University of Tennessee.

Pelvic Deformity in New York.

J. C. Edgar (*Med. Rec.*, vol. 62, no. 7) has made a study of pelvic deformity as found in a series of 1200 consecutive labors. His conclusions are both interesting and instructive. He says:

1. Of our 1200 consecutive cases measured, 499, or 41.58 per cent., were American born women; 215, or 17.91 per cent., Irish; 130, or 10.83 per cent., Russian; 105, or 8.75 per cent., German; 30, or 2.50 per cent., black, etc.

2. Contracted pelves occurred in 44 cases, once in 27 cases, or in 3.66 per cent. Generally, contracted pelves occurred in 30 cases, once in 40 cases, or 2.50 per cent. Flattened pelves occurred in 14 cases, once in 85.71 cases, or 1.16 per cent.

3. Twenty, or 45.45 per cent. of our cases of pelvic contraction were among American born women, and deformity occurred once in 24.95 of these cases, or in 4 per cent.

4. Three, or 6.81 per cent., of the contracted pelves were among black women, and deformity occurred once in 10 of these cases, or in 10 per cent.

5. Our material gives a frequency of contracted pelves (1200 cases, 3.66 per cent.) midway between the conclusions of Williams (Baltimore, 1000 cases, 13.1 per cent.; Crossen (St. Louis, 800 cases, 7 per cent.); Reynolds (Boston, 2127 cases, 1.13 per cent.), and Flint (New York, 10,223 cases, 1.42 per cent.)

6. Our statistics, 3.66 per cent. of contractions in 1200 cases, differ from those of England (F. Barnes of London, 38,065 cases, 0.5 per cent.); of France, 5 to 21.11 per cent.; Germany, 9 to 9 per cent.; Switzerland, 8 to 16 per cent.; Austria-Hungary, 2.44 to 7.8 per cent.; Russia, 1.2 to 5.1 per cent., Italy, 18.13 per cent.; Holland, 3.51 per cent.

7. Special or irregular forms of pelvic contractions, as oste-

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omalacia, obliquely contracted coxalgic, double coxalgic, spondylolisthetic and kyphotic, fractured pelvis, are infrequent in this country.

8. The generally contracted pelvis is the most frequent deformity met with in New York. I found twice as many generally contracted as flattened pelves in my material (30.14.) Williams found practically the same condition in Baltimore (79.45).

9. Records kept of private and consultation cases in New York over a period of ten years show a somewhat higher percentage than the results obtained from the 1200 hospital cases, namely about 5 per cent. for all deformities; the generally contracted pelvis being twice as frequent as the flattened.

Post-Operative Crural Thrombosis.

B. R. Schenck (*N. Y. Med. Jour.*, vol. 76, no. 10) after a study of 48 cases arrives at the conclusion that:

Thrombosis of the crural veins is more common after pelvic operations than is generally recognized.

It occurs more frequently in those cases in which large tumors, springing from the pelvic organs, have been removed.

It rarely follows extra-pelvic operations.

In this series it has been infrequent after infected cases.

The anemia and cachexia in consequence of new growths seem to be factors in its causation.

Constipation and the use of enemata play a doubtful part in the etiology.

Traumatism at the time of the operation should be borne in mind and deep retractors used with extreme care.

Infection is undoubtedly of great importance, but its frequency is difficult to decide.

This complication often occurs when least expected and usually late in convalescence.

Albumin in the urine is more frequent in these cases than in those running an uninterrupted course.

The pulse curve of Singer does not always occur.

The results of rest and elevation for the full length of time are excellent. When time is lessened, swelling and pain persist, and the danger of pulmonary embolus is increased.

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When and Why Does Labor Begin?

G. P. Shears (*Med. Rec.*, vol. 62, no. 8) says:

The statement made in many text-books that the cervix maintains its entire length during pregnancy is incorrect.

The statement sometimes made that the canal of the cervix remains closed until the beginning of labor is also incorrect. Usually in multiparæ, and occasionally in primaparæ, the canal including the internal os is dilated to the extent of admitting one or two fingers two or three weeks before labor begins.

Dilatation of the external or internal os or of the cervical canal is not *per se* an indication of beginning labor.

Dilatation of the clinical internal os or ring of Müller in such a manner that it begins to form part of the uterine cavity is at once the anatomical commencement and the diagnostic sign of true labor.

Dilatation at this point is the final result of uterine distention and consequent cervical eversion.

Dilatation at this point, owing to the greater resistance offered, by its effect upon the cervical ganglion, and the consequent reflex awakening of effectual uterine contractions, is the physiological cause of labor.

Myomectomy vs. Hysterectomy.

A. J. McCosh (*Med. News*, vol. 81, no. 13) says:

1. In young women with uterine fibroids demanding removal, myomectomy should always be the operation of choice.

2. Myomectomy is possible and advisable in the great majority of cases of fibroid tumors in young women.

3. For the safe performance of myomectomy the strictest asepsis is needed, otherwise it becomes a most dangerous operation.

4. In the operation of myomectomy fear of hemorrhage should be cast aside and bold and rapid methods should be adopted.

5. The operation is attended by the same danger to life as is hysterectomy.

6. The ultimate results as regards menstruation, pain and pregnancy are satisfactory.

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Memphis Medical Monthly

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THE HEALTH OF MEMPHIS.

WITH a mortality rate among the white population of but a fraction over 13 to the 1000, the citizens of Memphis have every reason to feel proud over the triumph of sanitation and modern medicine as applied in raising their city from practically the lowest position in the health records of the cities of the United States to, when the mortality among the colored inhabitants is eliminated, the very first position in this list.

What a remarkable change has been wrought! Emerging from the yellow fever epidemics of '78 and '79, Memphis, desolated in population and reeking with disease germs, was looked upon by the entire country as a veritable charnel house. But the confidence of her citizens in the Bluff City could not be shaken, and despite the gloomy forebodings justified by her past history, they returned to faithfully struggle in the upbuilding of a city that was destined through their efforts to earn its present title of "Queen City of the Mississippi Valley." Barring one or two yellow fever scares since the last epidemic of '79, the progress of Memphis toward health and prosperity has been uninterrupted, and the extraordinary increase in the population of this city during the last ten or fifteen years has been so phenomenal that it is attracting the attention of the entire country. In keeping with this rapid expansion of our population, it became necessary to sewer

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annexed territory and to institute rigorous sanitation in every portion of the city. This has been done, and so thoroughly done that Memphians now rejoice in a sanitary system that is excelled by none. To the persistent and consistent efforts of the Board of Health is in a large measure due this condition of affairs, and no words of praise for their success could be too strong. With health conditions on the very highest plane, and with her rapidly expanding prosperity in business channels, the future of Memphis from every standpoint is most roseate.

THE APPROACHING MEETING OF THE TRI-STATE MEDICAL ASSOCIATION.

NEVER before in the history of the Tri-State Medical Association have the prospects for its annual meeting been more flattering. The titles of quite a number of papers, which promise abundant food for discussion, have been sent to the secretary, and on every hand are heard expressions of intention to be present at this meeting. Several prominent members of the profession of Chicago, Louisville and New Orleans are to be present with papers by invitation, and their contributions to the program will no doubt be interesting and valuable to the members of the association. The meeting, as already announced, will be held on November 11th, 12th and 13th, in Germania Hall. A rate of one and one-third fare for the round trip, on the certificate plan, has been granted by all railroads entering Memphis. Physicians attending this meeting should be sure to ask for a certificate from the agent at the point from which they start. Every eligible physician in the territory contiguous to Memphis is urged to attend the meeting.

It will interest the members of the association to learn that the Frisco railroad offers them a free trip to Eureka Springs, Arkansas, at the close of the meeting. Every member is invited to visit this beautiful resort, and the sole cost to them will be sleeping-car fare and hotel board, which latter will be had at reduced rates, while in Eureka Springs. Dr. John W. Hayes, of Eureka Springs, and an agent of the Frisco road will attend the meeting and arrange for the trip.

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RECIPROCITY OF AMERICAN MEDICAL DIPLOMAS.

THE movement in favor of reciprocity of recognition among state medical diplomas in the United States is gaining ground, Illinois taking the lead. It is obviously absurd, in a country like the great republic, that university degrees and college diplomas should only be accorded credit within the limits of the state which gives them birth. On the other hand, some states have been, and, for the matter of that, still are, deplorably lax in their maintenance of a standard of professional acquirements, and one can understand that their diplomates should be regarded elsewhere as "undesirables." One advantage of reciprocity will be that low-standard licensing bodies will have to raise their requirements if their diplomates are to be recognized as fit to practice medicine in other states. Ultimately, no doubt, by a process of evolution, the various universities and medical colleges will be asked to assist in the formation of a general board of medical education, the function of such board being to establish and enforce a minimum standard of excellence as a condition of recognition. The process of evolution so far has been a slow one, but the citizens of the United States are eminently practical men, likely to carry through a reform of this kind in vastly less time than would be required in the hide-bound countries of the Eastern hemisphere.

The above editorial article from a British contemporary, the *Medical Press & Circular*, is an unusually clear presentation of an American question from a foreign standpoint. Unquestionably we should enjoy a system of reciprocity in license to practice medicine in the various states comprising the Union, but it is something that will be obtained only by uniformity in the standard of requirements for practice in the different states. As the matter now stands, there are very few states, perhaps only three or four, which have a standard that is anything like exacting in its requirements. New York more nearly approaches the ideal in the East and Mississippi in the South, and it will, perhaps, be necessary for all states to require of candidates for license to practice practically the same qualifications as are required in New York before a satisfactory plan of reciprocity can be arranged. This might best be attained by the states all agreeing on a board of Federal medical examiners, who shall examine all candidates, or, as suggested by our contemporary, the same results might be secured

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by the various graduating bodies coöperating in the formation of a general board of medical education, whose function would be to establish and enforce a minimum standard of requirements. However the results may be accomplished, we earnestly pray that the day may not be far distant when a license to practice medicine in one state confers a similar privilege in every state of the United States.

RUDOLPH VIRCHOW.

THE death of Rudolph Virchow, which occurred in Berlin early in September, removes from the active field of medical endeavor the brightest luminosity that has ever shone thereon, and, since history is a record of past achievements, adds a page to the story of the unfolding of modern medicine, that marks the passing of medical science from its dark ages into its recent decades of remarkable attainments. Without Virchow and his revelations in pathology, medicine would no doubt still be confined to the narrow limitations of an art, without being able to claim, as it now does, to be the most advanced of all sciences.

It is useless for us to pass in review the remarkable works of Virchow, for every student and practitioner of medicine is necessarily conversant with his most important contributions to medical science. The foundation of modern pathology, which began with the enunciation of his doctrine, *omnis cellula ex cellula*," was but the beginning of a long series of original researches conducted by him that have enriched medicine to an extent approached only by the works of Pasteur. But Virchow's labors were not confined to the domain of medicine, for as an anthropologist he had few equals, and his political career and services to the State were far greater than those of many of his contemporaries who followed politics as a career. It is not merely the medical profession who lament the death of this extraordinary man, but his loss will be universally felt.

THE MEMPHIS BOARD OF HEALTH is rigidly enforcing the law requiring every school pupil to furnish a certificate of successful vaccination this year. Large numbers of children are daily being vaccinated by the officers of the Board.

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EDITOR'S NOTES.

THE TRI-STATE MEDICAL SOCIETY of Alabama, Georgia and Tennessee will meet in Birmingham, Alabama, on October 7th, 8th and 9th. The program shows quite a list of titles, and the meeting should be very interesting.

THE MONTGOMERY COUNTY (TENN.) MEDICAL SOCIETY met at Humboldt on the evening of September 2nd. The meeting was well attended, and papers were read by Drs. Frank Jones and Richmond McKinney, of Memphis, and Dr. Sidney Thompson, of Humboldt.

THE ST. LOUIS MEDICAL SOCIETY, and their guests, will enjoy a memorial address on "William Beaumont, the first and greatest American physiologist," to be delivered by Dr. William Osler, of Johns Hopkins University, at the Oden, on Saturday, October 4th, at 8 P.M.

THE MISSISSIPPI COUNTY (ARK.) MEDICAL SOCIETY will meet at Osceola, October 8th, at 8 P.M. This meeting is expected to be unusually well attended, and several interesting papers are promised for the occasion. A number of visiting physicians have been invited to attend this meeting.

THE ILLINOIS BOARD OF HEALTH is preparing to put in action a plan of examination of school children with a view to detecting defects of the eyes and ears. At a recent meeting of this Board, the Child's Study Department of the Board of Education of the City of Chicago called their attention to the fact that a systematic examination of the vision of the school children of Chicago had revealed that 32 per cent. of the boys and 37 per cent. of the girls in the schools had defective vision.

DR. J. B. MATTISON, Medical Director of the Brooklyn Home for Narcotic Inebriates, offers a prize of four hundred dollars ($400) for the best paper on the subject:

Does the Habitual Superdermic Use of Morphia Cause Organic Disorders? If so, what?

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Contest to be opened two years from December 1, 1901, to any physician, in any language. Papers should be sent to the chairman of the committee on awards, Dr. T. B. Crothers, Hartford, Connecticut.

THE EDITOR OF THE MONTHLY desires to express his appreciation of the generous hospitality of Messrs. Parke, Davis & Company, of Detroit, of which he was the recipient during a recent visit to Detroit as the guest of this house. The opportunity afforded to inspect the magnificently equipped laboratories of this progressive house, was one that was enjoyed to its fullest, and the social features participated in as the guest of Parke, Davis & Company were such as to leave a permanent impression of their liberality and delightfulness.

BOOK REVIEWS.

WOOLSEY'S SURGICAL ANATOMY. Applied Surgical Anatomy Regionally Presented, for the use of Students and Practitioners of Medicine. By Geo. Woolsey, A.B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College; Surgeon to Bellevue Hospital, etc. Octavo, 511 pages, with 125 illustrations, including 59 full-page inset plates in black and colors. Cloth, $5, net; leather, $6, net. Lea Brothers & Co., Philadelphia and New York, 1902.

The study of anatomy is a fundamental principle involved in preparation for good surgical work. The surgeon by all means must primarily be an anatomist. A work of this kind should therefore appeal to every one who is called upon to practice surgery in any degree, and should attain to high favor with students and practitioners. It combines the study of anatomy in its relationship to surgery, and by impressing the close relationship of the two serves to relieve in a measure the monotony of the study of anatomy in an abstract form. The work is abundantly illustrated with large and handsome plates in colors, and will be found both ornamental and extremely useful.

DUDLEY'S GYNECOLOGY. A Treatise on the Principles and Practice of Gynecology. By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (3d) edition. Enlarged and thoroughly revised. In one very handsome octavo volume of 756 pages, with 474 engravings, of which 60 are in colors, and 22 colored plates. Cloth, $5.00 net; leather, $6.00 net; half Morocco, $6.50 net. Lea Brothers & Co., Philadelphia and New York.

Dudley's treatise on gynecology has met with considerable popularity, which is emphasized all the more by the fact that the last few years have been very rich in the output of works on this subject. It is no doubt due to its excellence as a text-book that much of the popularity of this work is due.

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In this third edition we have a thorough revision in both text and illustrations, and the author has culled the old matter to such an extent that it has been found possible to add nearly one hundred pages, twenty-five new engravings and fourteen plates, without increasing to any considerable extent the size of the volume nor its price. The book should, and doubtless will, continue to meet with favor from students and practitioners.

GRAYSON'S LARYNGOLOGY. A Treatise on the Diseases of the Throat, Nose and the Associated Affections of the Ear. By Chas. P. Grayson, M.D., Lecturer on and Instructor in Laryngology in the Medical Department of the University of Pennsylvania. In one octavo volume of 540 pages, with 129 engravings and 8 colored plates. Cloth, $3.50 net. Lea Brothers & Co., Philadelphia and New York. 1902.

The past few months have been peculiarly rich in contributions to the text-book literature of the nose, throat and ear. There seems to be something coincidental about this, for we have noticed that the different fields of medicine are invaded from time to time by what might be called epidemics of literature. But of the various additions to the literature of the nose, throat and ear, none is more deserving of careful consideration than this work by Grayson. It cannot be said that he has added anything new in particular to our text-book literature which would call for exhaustive comment, but it is the fact that the author has given us such a clear and beautifully written work that should justify more than casual comment.

The reader will at once be impressed by the easy style of the author, and this cannot by any means be said of authors in general nowadays, for clearness and beauty of diction seem to be a rare art with modern medical writers. Then we next become impressed with the conciseness of the presentation of every subject, for the author has a directness in his teaching that will be appreciated by those of us who are oftentimes forced to wade through a mass of stuff before we are enabled to obtain the gist of an article. Naturally in a work of this character the methods of treatment favored by the author receive paramount consideration, and practically every other method is excluded. This is no doubt best, for the reader desires positive opinions in a text-book, and not a collection of quotations from other authors.

We believe that the author has devoted too little consideration to the subject of hypertrophy of the faucial tonsils, as there are few, if any, diseased conditions of the upper air passages which occasion more consequent disorders than this pathological state. No doubt he has suggested the best general method of removing hypertrophied faucial tonsils when he states that his preference is for the Mathieu guillotine, but there are other methods of removing enlarged tonsils that meet with more favor at the hands of other operators, and the writer has always expressed a preference for the MacKenzie tonsillotome to any other form of this instrument. Frequently the guillotine does not remove sufficient of the diseased tissue, and here cautery dissection or the cold or hot snare would be more satisfactory in the long run. The treatment suggested for chronic lacunar tonsillitis is the one usually adopted by us, and has in all cases proved satisfactory. The portion of the work devoted to adenoid growths is ample for a work of this character. The author, in common with other present-day operators, operates frequently without a general anesthetic, using cocain anesthesia, and argues as

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to its advantage over general anesthesia. He does not express a decided preference as to the general anesthetic to be used when this becomes necessary. As to instruments, the combined use of forceps and curette finds greatest favor with him. In our experience the curette, followed by the finger, never fails to accomplish thorough removal of every vestige of the post-nasal vegetations.

The portion of the work devoted to diseases of the ear is in keeping with the general characteristics of that considering the diseases of the nose and throat. It is a very clear exposition of modern otology in an abstract sense, but it is amply voluminous for its purposes.

Illustrations in black and color are plentifully supplied in this work, and the typography is excellent.

DISEASES OF THE STOMACH. Their Special Pathology, Diagnosis and Treatment. With Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., PHILOS. D., Professor in the Medical Department of the University of Maryland, Baltimore, etc., etc. With many original illustrations, a number of which are in colors, and a lithograph frontispiece. Third enlarged and revised edition. P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, Pa.

It is not surprising that Hemmeter's magnificent work on the diseases of the stomach should speedily go to a third edition, for it is one of the very best exponents of the high state of development of American medical authorship. This work has deservedly won recognition as a classic, and its position in medical literature promises to be permanent.

In this edition there have been very few notable changes made, which argues for the completeness of the work as first published. The importance of differential diagnosis in gastric conditions has been emphasized, new material has been added to the chapters on ulcer and carcinoma, and a new article on gastric lipase is a feature. The beautiful illustrations and very complete bibliography that characterize this book are two of its most valuable features. We are confident that the favorable reception accorded the work in this country and Europe will continue.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology in the Chicago Post-Graduate Medical School. Volume IX: Physiology, Pathology, Bacteriology and Anatomy. Pathology edited by W. A. Evans, M.S., M.D., Professor of Pathology, College of Physicians and Surgeons, Chicago. August, 1902. The Year Book Publishers, 40 Dearborn street, Chicago.

In this Practical Medicine Series of Year Books no volume should prove more popular nor more valuable than the present one, which is edited by two of the ablest men in their respective fields in this country. For his excellent work in pathology, Dr. Evans has long since become a recognized leader, and his co-worker, Dr. Gherman, is none the less well known for his labors in the field of bacteriology. The wisdom of their selection for the task of editing this volume by the publishers is emphasized in the superiority of their work. The volume is a complete, although small, résumé of a year's contributions to pathology and bacteriology, and will be found exceedingly useful to every teacher, writer and general practitioner.

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MEMPHIS MEDICAL MONTHLY.

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ORIGINAL ARTICLES.

QUININ IN MALARIA.*

BY J. B. McELROY, M.D.
STOVALL, MISS.

Mr. President and Gentlemen:

HORACE tells us that a country mouse was prevailed upon by his city brother to make him a visit. Rusticus being stretched out upon a purple carpet enjoying the hospitality of Urbanus, rejoiced in his changed condition and acted the merry guest under these happy circumstances. Suddenly there was a rattling at the gates, and the lofty dome resounded with the barking of Molossian dogs. The mice scampered about the room and half dead with fear, trembled more and more. Then said Rusticus, "I have no need of such a life. My wood and caves, free from the snares, shall solace me with my scanty store." The honor which your invitation bestows I sincerely appreciate, and enjoy keenly the pleasure of being with you, but when I come to present a subject for your consideration, I share somewhat the sentiment of Rusticus.

It might be asked, what good, if any, can accrue from a consideration of this subject, since every one has known that quinin will cure ague since its introduction to the civilized world by Countess del Cinchon? The fact that Memphis

* Read by invitation before Memphis and Shelby County Medical Society, Memphis, Tuesday evening, October 7, 1902.

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dispenses annually more than 150,000 ounces of quinin, and my own experience and observation, impress me with the truth of one of Laveran's dicta, viz., "In a general way it may be said that in malarial districts far too much sulphate of quinin is given to patients who have no need of it, while a sufficient quantity is not given to patients suffering from paludism." So I have ventured to ask your consideration to-night of quinin as a prophylactic, as a diagnostic, and as a therapeutic agent, in malaria.

A cursory review of the literature shows that observers in different parts of the world are by no means agreed as to the value of quinin as a prophylactic. Many of us, alas, have not advanced far beyond the stage at which practical medicine was before the time of Louis, speaking of which Dr. Holmes said, "The history of practical medicine had been like the story of the Danaides. Experience had from time immemorial been pouring its treasures into buckets full of holes. At the existing rate of supply and leakage they would never be filled; nothing would ever be settled in medicine. But cases thoroughly recorded and mathematically analyzed would be always available for future use, and when accumulated in sufficient number would be trustworthy and belong to science."

So it is we have experiments recorded in which quinin has been given in routine fashion as a prophylactic in from one-sixth to five grains three times a day—sometimes in cases of questionable diagnosis, often without reference to the form of parasite against which it is used, without reference to conditions in the patient, such as gastro-enteric derangement which would interfere with the absorption of the drug, and without reference to the association of other prophylactic measures which we know are potent in warding off malarial attacks.

The French, among whom MM. Corré, Marvaud, Thorel, Bizardel, and the officers of the French marine, report that it is effective against the mild forms of malaria, but of little value against the graver forms. Among the Americans, Bryan and the Federal surgeons of the civil war found it a valuable prophylactic. Bryson and Duncan among the English report in favor of it upon control experiments made without reference to surrounding conditions or to microscopical test. The

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experiments carried out on a large scale in the Indian jails report generally in favor of it, but it seems that no one except Fearnside performed the experiment with reference to the action of quinin upon the malarial parasite. He found that quinin had no effect upon the crescents when once formed, but that it had apparent action in the prevention of the formation of crescents. He thinks it a valuable prophylactic in persons who have not been exposed to malaria, and in modifying the severity of the attacks. Marsden, Rees and Batterby favor its use. On the other hand, the Austrian and Russian surgeons found it of no value as a prophylactic. No benefit was observed in the Malay wars. Harvey found that it was of no advantage in the West Coast regions of Africa. It was of no use in the Ashantee wars of 1893 and 1896. French Mullen, who reported in favor of it in 1896 and 1897, changed his view in 1898, and observed that it not only did not diminish fever attacks, but seemed to increase bowel complaints. Robert Fielding-Ould opposes its use as a prophylactic on the ground that it only acts against the parasite when present; that it produces digestive disturbances, and that it leads to congestion and torpidity of the liver.

Possibly the most convincing experiment with reference to the beneficial effect of quinin as a prophylactic is that of Koch made at Stephansort, German New Guinea, in 1899–1900. From this report I take it that quinin is used by Koch in the same manner in which it is administered therapeutically, i. e., one gram is given in one daily dose until parasites disappear from the blood. Then after a period of seven days one gram is given daily on two successive days, then another interval of seven days, and quinin repeated in the same way for at least two months. Nineteen Milanesians from the Gardner Islands arrived at Stephansort in the middle of December, 1899. Of this number, nine, or 47.7 per cent., were attacked with tropical or estivo-autumnal malaria shortly after their arrival. These were promptly cured and took quinin prophylactically afterward for a period of about four months, and none had been sick again at the time of the report. A number of Ambonese, who are very susceptible to malaria, came from Wilhelmshafen; one-half of these took quinin, none of

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whom had malaria. Of the other half who did not take quinin, all except one had malaria. The members of the Commission also carried out the prophylactic use of quinin and escaped infection. So, from this, Koch concludes that human beings susceptible to malaria in a malarious region can with certainty be protected against infection. He however adds that quinin prophylaxis is always somewhat troublesome, and for many people extremely disagreeable.

On the other hand, Celli, speaking of the immunizing action of quinin, says "it is not of practical use, inasmuch as it is a remedy which in small doses is inefficacious, and in large doses cannot be taken for a long time, as it is injurious to the digestive and nervous systems." He also points out that by making *anopheles* bite patients undergoing quinin treatment, and having gametes in the circulating blood, the sexual cycle develops in spite of the treatment, consequently complete prophylaxis cannot always be obtained by means of this disinfection, notwithstanding what Koch says about it.

I think Manson is correct when he says that "the reputed prophylactic effect of quinin is but a phase of its therapeutic action; it is the application of the drug to the parasite, and not an immunizing of the body against the entrance of the parasite one has to deal with, therefore one may confidently expect that if it will cure a malarial infection, it will prevent its development."

In our climate, very seldom does either the spring tertian, which we encounter most frequently as late as June, or the estivo-autumnal, which occurs most frequently during the balance of the malarial season, respond to five grains of quinin three times a day. Hence the practice of giving small amounts of quinin for breakfast, dinner and supper with a view to prophylaxis is not effective, but on the other hand is injurious in the general disturbance which it produces, in the production of anemia, and is further objectionable in that it interferes with the scientific diagnosis of malaria when it does develop. I have seen this very forcibly illustrated during the past season. A family of five children were greeted every morning at the breakfast table by "Come and take your quinin." None of them escaped malaria. One succumbed

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to a pernicious attack in which the first one or two paroxysms were masked. Another came near going the same route, and all were in such a run-down condition that they had to move to a nonmalarial climate for the balance of the summer.

However, after malaria has developed, the administration of fifteen grains of quinin once a week is effective and indicated to prevent the return of the paroxysms which will almost certainly come on without it. This amount given during a few hours before retiring, the disagreeable effect will be reduced to a minimum.

AS A DIAGNOSTIC AGENT.

There are two trustworthy means of diagnosing malaria, viz.: the microscopical test and the therapeutic test by quinin. I think we can not emphasize too strongly the value of the microscope. It furnishes the scientific test, and is in many instances the means of saving life, especially in malarial districts. Each of these methods, however, has its advantages. Sometimes malarial infections occur in which there are no parasites in the peripheral circulation for days. Thayer has recently reported an instance of this kind. Stephens and Christopher, in their report to the Royal Society, series five, report five cases in which fever persisted for some days without the presence of parasites.

The parasites are sometimes missed when there is not an opportunity for repeated examinations. In routine blood work I have been struck with the frequency with which I have been unable to find parasites in cases where I am strongly impressed with their malarial nature from the clinical history. These almost invariably are cases in which quinin has been administered previously. One of my routine questions is, "What medicine have you taken"? The reply is usually "Nothin' but some pills and black draft." "Have you taken any quinin"? "Quinin, ya, sir, I took two or three dostes." In these cases pigmented leucocytes help us out, but they are often as difficult to find as the parasites. Where time permits a differential count of the leucocytes affords valuable information; 20 per cent. of the large mononuclears is strong evidence of malaria, according to Stephens and Christopher. Here is a slide (exhibiting) which illustrates this point:

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C. B., black, female, aged 38, had chill and fever two days ago. Took calomel and quinin heavily day before my visit. Complains of pain in abdomen, general aching, no fever, no parasites in the blood. Large mononuclears 41 per cent., s. m. 8 per cent., p. m. n. 51 per cent. In the afternoon had high fever which afterward responded to quinin.

The quinin test is a quick and effective means of diagnosing intermittent fever with fixed intervals. The late W. W. Johnston, in a most excellent article, which I wish every practitioner in malarial districts would read and assimilate, states that among the diseases in which intermittent fever with regular intervals is constantly or frequently met with, are: 1, malarial intermittent fever; 2, hepatic fever; 3, ulcerative, malignant or infectious endocarditis; 4, chronic vegetative endocarditis; 5, rheumatism without heart lesion; 6, acute tuberculosis; 7, syphilis.

The administration of one or two well-timed doses of quinin will serve to distinguish the malarial intermittent. We would do well to heed the diagnosis which quinin gives us in these conditions, and thereby save our patients much discomfort and injury. In the estivo-autumnal infections, with remittent or continuous fever, it is not so quick nor so reliable if given in a half-hearted manner. But when thirty to forty grains daily are given these fevers will show a break in the temperature in from four to six days at most. To illustrate: Not long ago I saw a patient who gave a history of continued fever for five days. He had taken several doses of quinin. The blood showed no parasites, but their absence may have been accounted for by the administration of quinin. So he had forty grains of quinin daily for three days without any effect upon the course of the fever. On the ninth day the blood was tested for the Widal reaction, which was typical in a dilution of 1–20 in ten minutes. The quinin was stopped, with the result that the patient went along to recovery much more comfortably. I might have arrived at a diagnosis earlier and saved a good deal of quinin. I believe the average practitioner in our country who furnishes his own medicines can save enough in quinin in a few years to buy a microscopical outfit and fit himself for its use.

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AS A THERAPEUTIC AGENT.

Laveran at first noted that the parasites to which he ascribed the malarial fevers disappeared from the blood upon the administration of quinin. The action of quinin upon the parasites has been the occasion of study by various observers since that time. In 1899, Lo Manaco and Panichi studied the effect of quinin upon the parasites in the fresh state. They found upon introducing a solution of quinin into a fresh preparation of malarial blood, that the parasites were affected variously, according to the strength of the solution introduced. Thus a very weak solution caused them to swell; a weak solution stimulated them for a short time; one of medium strength stimulated the parasites markedly and terminated in their extrusion; a strong solution caused them to contract suddenly within the corpuscle. They also observed that the resistance of the parasites to the action of quinin is not always the same. The resistance diminished at the approach of the febrile period and during its development. The maximum resistance was found during the apyretic period. These observations are in accord with previous observers, such as Golgi, Marchiafava and Bignami, Mannaberg and others. The study of specimens stained by the Nocht-Romanowsky method or modifications of this, show that quinin also exerts a necrotic action upon the parasites, as shown by the loss of affinity of the protoplasm for the stains. This action may be observed in some measure by looking over the specimens which I have brought with me.

The histories are as follow:

C. S., white, aged 42, applied for treatment May 29, 1902, complaining of chill. He was shaking, and presented the appearance of having an ordinary malarial paroxysm which had been on about half an hour. Blood taken at this time, 11 A.M., showed clearly a double tertian (spring) infection. There were young forms and large pigmented forms. In another spread taken at the same time a sporulating body was observed. The next specimen, 2.30 P.M., four or five hours after chill, shows both generations, the young forms beginning to take pigment. Quinin five grains was given at 4, 5 and 6 A.M. The next spread, taken at 7 A.M., at which time there was no fever, shows the young generation pre-

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dominating. In another smear at this time a sporulating body was also observed. The patient had a light chill at 12 M. Temperature at 6 P.M., 99⅘°, when the last spread was taken, showing typical quinin forms. The protoplasm appears somewhat drawn up, the pigment massed, and the nucleus taking the chromatic stain poorly. Five grains of quinin were given every six hours after 6 A.M., and the chill did not develop on the following day.

This illustrates the manner in which quinin may be given in regular intermittents. Fifteen grains administered about four hours before the expected paroxysm will not usually prevent that paroxysm, but will modify its severity and prevent the next; or, if given as the sweating stage comes on, will usually prevent the next.

C. B., black, female, aged 38. Had chills and fever about two weeks ago; has had a chill every day for three days. Fever was rising at the time I saw her—4 P.M., September 1, 1902. She complained of pains generally; temperature 102°; blood showed estivo-autumnal rings, pigmented and non-pigmented. September 9th, 11 A.M.: No fever; blood rings non-pigmented; quinin, five grains, at 12 last night, 12 M. and 4 P.M. today, and every four hours thereafter; 5 P.M., rings; 6 P.M., chill. September 10th, morning: No parasites and no more fever.

In estivo-autumnal infections of intermittent character, the quinin may be administered as before, say, five grains every hour until four doses are given, the last to be taken about four hours before the expected paroxysm. Where the fever is remittent or continuous, I prefer to give five grains every four hours. Rarely will more be required to control the fever. If there is a tendency for the fever to go high, an extra ten grains at the high point will usually suffice. In these infections I would emphasize the necessity of continuing the quinin in cases in which fever continues after the disappearance of the parasites. This it will sometimes do for four or five days.

There are many salts of quinin. Of these the sulphate, on account of its cheapness and reliability, is most generally used. For physiological effect, it is preferable to administer this in solution; but on account of its disagreeable taste, it may be administered in capsules with dilute hydrobromic or hydrochloric acid. The dihydrochlorate, neutral hydrochlorate or

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bimuriate, possesses advantages over all the other salts, in having a larger percentage of the alkaloid, in being less bulky, more soluble, less liable to irritate the stomach, and is adapted for hypodermatic use. Its expensiveness precludes its general use. The chlorsulphhydrate is also an excellent salt for hypodermatic use. It is said to be less irritating than the bimuriate, or even than the carbamidated bimuriate, which is most generally used in this manner. I have not been able to see that this is the case.

The drug may be administered, (1) by mouth, (2) hypodermatically, (3) by hypodermoclysis, (4) intravenously, (5) by rectum. Ordinarily administration by mouth will suffice, but sometimes the condition of the stomach is such that the drug administered in this manner is not absorbed; sometimes the severity of the attack is such that a quicker means of getting the drug into the circulation is desirable, and in such cases methods 2, 3 or 4 may be used.

Two objections have been raised to the hypodermatic administration—first, that there is not absorption, hence very little or no physiological effect; and second, disagreeable local sequelæ are apt to develop. Last year, upon reflection, I thought it possible that the good effects which I had observed by this method may have been due to the quinin per orem with which I usually supplemented the hypodermatic injection.

In order to get some expression from those who have to do with pernicious malaria, I addressed the following questions to several physicians. The responses were not with the expressed understanding that I should quote them, but I feel sure that the gentlemen who so kindly responded will not object:

"Do you use quinin hypodermatically in pernicious malaria? If so, with what result, first, as to physiological effect; second, as to local sequelæ?"

Dr. W. M. Carson, Sherard, Miss.: "Yes; patient went under influence quickly; temporary deafness and blindness, almost complete after administering fifteen grains of dihydrochlorate. The deafness and blindness did not appear to such a marked degree until the second injection six hours later. Local: Marked redness followed as soon as tumor produced

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by fluid had subsided; then developed a dark hue, and corresponding to amount of liquid compressing tumor sloughed out.

"The above description is that of case in private practice. A second upon which it was used in hospital died before physiological or local effect could be obtained. I may state that rigid antiseptic precautions were observed in connection with skin of patient and needle." I saw this patient who was in a very low state of vitality, which probably accounted for slough.

Dr. F. M. Brougher, Belen, Miss.: "Yes, in rare cases of uncontrollable nausea. Had usual cinchonism and antiperiodic effect with five to eight grains. * * * No longer find it necessary to give quinin by the needle."

Dr. E. H. Martin, Clarksdale, Miss.: "Yes, under certain circumstances. Results: First, when quinin is dissolved in normal salt solution, not too concentrated, say ten grains to half ounce of solution, results are good; when solution is concentrated or gives acid reaction, results are nil. Have had no bad local sequelæ; have seen some. Think solution generally too concentrated. Have used subcutaneous injection (infiltration), and find it gives best results. Use twenty grains bimuriate of quinin and urea in one pint of normal salt solution; they dissolve readily, and no local results follow."

Dr. J. D. N. Shinkle, Friars Point, Miss.: "Yes, with decided physiological effect and very little local trouble."

Dr. Frank Jones, Memphis: "The hypodermatic way is the only one, in my opinion. I have upon several occasions seen quinin pass through the intestinal tract undissolved where given by the mouth. When I practiced in the Delta, I always gave quinin hypodermatically in pernicious forms of malaria. As to physiological effect, can only state that fever yielded in twelve to forty-eight hours, depending upon degree of infection. Did not have an opportunity to examine the blood with reference to the effect of quinin upon the parasites. Have had abscess to follow but once. Am inclined to think that where abscesses are frequent there is faulty technique."

Dr. Charles F. Craig, The Presidio, San Francisco: "Yes; the physiological effects are the same as those obtained by administration by mouth, save that they are more prompt in appearance. As to local sequelæ, I have seen abscess forma-

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tion at the seat of puncture in about 20 per cent. of cases. Often hard nodular elevations appear at the seat of puncture, which persist for some time."

Dr. Wm. Britt Burns, Memphis: "Yes. First, full cinchonism. The neutral salt should be used. It is said that when the basic salt is used the alkaloid is precipitated by the alkaline tissues, and absorption is precluded. I thought I got this in one case, but am not sure. Second, years ago hypodermatic use of quinin, when the bicipital region of the arm was used, I often had abscesses, or rather chemical sloughs. I now put the bisulphate, or preferably the neutral hydrochlorate, deeply into the gluteal muscles. At times there is some sclerosis and swelling, these being only transitory, but I have never had a slough or abscess. My solution is used as hot as the tissues will stand. Syringe and needle are aseptic."

Dr. W. P. Barton, Malone's Landing, Miss.: "I do not; I used to do so. No effect physiologically, and abscess or induration locally."

Dr. J. W. Gray, Clarksdale, Miss. (personal communication), says he is bitterly opposed to its use hypodermatically. No physiological effect. Thinks the patient gets homeopathic doses of quinin from injection for months, and bad results locally.

This year I have made some tests of this matter, and though incomplete they tend to show that absorption takes place rapidly. In one instance the urine was collected in six minutes after the hypodermatic injection of quinin, and it gave the reaction for quinin. The therapeutic effect was observed in the following case:

L. M., black, female, aged 30. Fever had been coming on about 10 A.M. for several days. The husband of the woman stated the fever would rise pretty high, and he had not been able to "get any sense into her" from 12 M. to late in the afternoon. At the time of my visit, 11 A.M., the patient was stupid and responded to questions incoherently; the thumbs were flexed upon the palms of the hands, which occasionally presented athetoid movements; there was inability to protrude the tongue, and fluid taken into mouth would regurgitate; coma came on gradually, which lasted until late in the night. Temperature in the afternoon reached 106⅘°F.; blood

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showed numerous rings. Fifteen grains of bimuriate of quinin and urea, dissolved in ten c. c. of water, were injected at two seats; it was repeated at 5 P.M. The next morning the patient had regained consciousness; temperature was 100⅖°F.; blood showed scanty rings; fifteen grains were repeated in same manner as on the previous day. There was a slight rise in temperature in the afternoon, after which the patient went on to recovery, with indurations at seats of puncture.

Another case:

A. F., black, female, aged 4 years. Had high fever and convulsions the day previous to my visit, at 10 A.M. Patient was flighty—thought she was falling from an elevation; temperature 106⅕°F. Ten grains of bimuriate of quinin and urea in ten c. c. of water were injected into gluteal region; quinin, four grains per orem, ordered every four hours. Patient was up next day. The mother thought she had to do something for the induration at seat of puncture, and applied poultices continuously for several days, with the result that a large abscess developed—the only one I have had to result from numerous injections of quinin.

Some experiments recorded in the *Journal of Experimental Medicine* last year showed that the effect was obtained quicker and with greater intensity where subcutaneous injections were made at several seats. I have found this to be the case in administering quinin hypodermatically, and the irritation is less. I think it may be concluded that quinin administered hypodermatically produces physiological effect more rapidly than when administered by mouth, and extreme care must be exercised to prevent disagreeable local sequelæ.

3. *By hypodermoclysis.* I am indebted to Dr. J. W. Gray, of Clarksdale, Miss., for the suggestion to use quinin in this manner. Fifteen or twenty grains of the bimuriate of quinin and urea are dissolved in a pint of normal salt solution, and infusion performed in the usual manner. I have upon several occasions used this with marked benefit, even to the saving of life. It is the method *par excellence* in the algid forms of pernicious malaria of the gastro-intestinal type, or where the heart seems to be bearing the brunt of the attack, or in cases where the kidneys are acting poorly. I do not think it could find such marked indication in the comatose forms of malaria. Here the hypodermatic or intravenous methods are preferable.

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4. *Intravenously.* It would appear from the replies referred to above that this method is not often resorted to. Two only have used it, both with marked benefit. The origin of this method of administration belongs to Bacelli, who claims to have markedly reduced the mortality of the comatose forms of pernicious fevers in Italy. I have used it three times with good effect. The objections which I think may be urged against it is, first, the difficulty of preparing the solution in emergency cases in private practice with sufficient asepsis; and second, the difficulty of administering it in these cases, it being often a difficult matter to enter the vein.

5. *By rectum.* Some have claimed good results from this method, especially the Indian physicians, but my results have been so unsatisfactory that I have discarded its use altogether.

I have said nothing of quinin in malarial cachexia, nor in hemoglobinuria.

It is pretty well agreed that quinin has little indication in cachexia, unless the parasites are decidedly present.

There is still some disagreement as to quinin in hemoglobinuria. It had been my purpose to discuss at some length this phase of the subject. With this view I have collected for analysis all the cases which I could find in the literature with blood examinations, about one hundred, but I fear that I have already trespassed too far upon your kind indulgence, and have omitted that. I will, however, ask you to bear with me while I report a case of hemoglobinuria, one of average severity and a fair type of the cases we meet with, which tends to show that quinin has no indication in hemoglobinuria.

C. R., male, white, aged 37. Residence, Stovall, Miss. September 9, 1902. Family history negative. Personal history: Measles and whoopingcough when a child; has lived in the Delta six years; had hemoglobinuria in fall of 1897, also in fall of 1898; had malarial attacks in 1899, 1900 and 1901; all attacks of malaria, except hemoglobinuria, were treated with quinin; he had chills in June of this year, which were treated with quinin and a rest at the springs. On September 6th he had a dumb chill, felt quite seedy, but did not go to bed; on 7th, 12 M., had a slight chill, with nausea and vomiting, but did not go to bed, and was able to go to church, which, strange as it may seem, he did, that day being Sunday; at night he

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took calomel, and five grains of quinin at 3, 6 and 9 A.M. the next morning; 8th, had a hard chill at 10 A.M., with high fever and much vomiting, and quite a good deal of delirium at the height of the fever. I saw him at 5 P.M.; he was quiet and sweating freely; spleen nor liver perceptibly enlarged, but quite a good deal of tenderness in both regions; lungs and heart negative, urine normal in appearance, and temperature 102°F. In stained blood film, after long and repeated searching, found one pigmented ring, the nucleus of which did not take the chromatic stain; there was one pigmented leucocyte; differential count of leucocytes gave p. m. n. 84, l. m. 12 and s. m. 4. I ordered ten grains of calomel in four doses, and five grains of quinin every four hours, which he had from 6 P.M. to 6 A.M. on the 9th. At 10 A.M., hard chill, lasting more than one-half an hour; black water soon afterward; much nausea and vomiting of dark green fluid, with flakes of darker green material mixed with it. On 10th, 2 A.M., another severe rigor; black water continuous; later in the day quite decided icterus.

BLOOD EXAMINATIONS.

On 9th, 3 P.M.: Hbg., 75 per cent.; erythrocytes, 4,166,400; leucocytes, 17,000. Fresh film: no microcytes, no macrocytes, no poikilocytosis, an occasional pigmented leucocyte, no parasites. Stained film: no parasites; leucocytes, p. m. n. 72 per cent., l. m. 21 per cent., s. m. 7 per cent. Hemoglobinemia: 5 P.M.: No parasites in fresh or stained film; leucocytes, p. m. n. 78 per cent., l. m. 10 per cent., s. m. 12 per cent. 10 P.M.: Stained film: no parasites; leucocytes, p. m. n. 82 per cent., l. m. 8 per cent., s. m. 4 per cent.

On 10th, 2 A.M.: Stained film: no parasites, two pigmented poly's and one typical l. m. microcytes and macrocytes; leucocytes, p. m. n. 88 per cent., l. m. 8 per cent., s. m. 4 per cent. (It will be observed that this film was taken just after an intense rigor, which almost shook the patient out of the bed. Morphin and atropia were administered, which soon quieted the patient, without any perceptible evil effects.) At 6 A.M.: Fresh film: microcytes, macrocytes; very slight, if any, poikilocytosis; no parasites. Stained film: no parasites, three pigmented leucocytes on spread; leucocytes, p. m. n. 80 per cent., l. m. 15 per cent., s. m. 5 per cent. 11 A.M.: Hbg., 60 per cent.; erythrocytes, 2,736,000; leucocytes, 13,000. Fresh film: no parasites; long search on excellent film. Stained film: no parasites; leucocytes, p. m. n. 80 per cent., l. m. 14 per cent., s. m. 6 per cent. 2 P.M.: Stained film: no parasites; leucocytes, p. m. n. 76 per cent., l. m. 15 per cent., s. m. 9 per cent. 10 P.M.: Stained film: no parasites; leucocytes, p. m. n. 71 per cent., l. m. 18 per cent., s. m. 11 per cent.

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On 11th, 6 A.M.: Hbg., 55 per cent.; erythrocytes, 3,230,000; leucocytes, 42,000. Fresh film: no parasites. Stained film: no parasites; leucocytes, p. m. n. 57 per cent., l. m. 35 per cent., s. m. 8 per cent.

Experiments *in vitro* to determine tonicity of blood:

Salt solution.....	8%	6%	4%	3%	water
Patient's blood...	no h.	no h.	no h.	h.	h.
My blood.....	no h.	no h.	h.	h.	h.

which shows that the patient's blood was of a lower tonicity than normal blood, and this was in accord with the findings of Stephens and Christopher. These observers also endeavored to determine by experiment *in vitro* the effect of quinin upon hemolysis, both with patient's blood and with normal blood; also the hemolytic effect of patient's serum on normal blood and upon normal blood after the administration of quinin. Their results were negative in the one case tried, as we might have expected from the theories of Ehrlich on hemolysis. The patient's serum and the quinin might have furnished the complement, but the intermediary body, the result of repeated malarial attacks, was lacking in the normal blood. While the experiments which I have made in this case, even if accurate, will require further demonstration, they serve to show that we may hope for something to help us solve the incognita of hemoglobinuria. I made the following experiments:

1. .8 nacl. sol. + patient's serum + my blood = no h.*
2. .8 nacl. sol. + patient's serum + patient's blood = h.
3. .8 nacl. sol. + quinin + normal blood = h.
4. .8 nacl. sol. + quinin + patient's blood = H.†
5. .8 nacl. sol. + quinin + patient's serum + patient's blood = H.
6. .8 nacl. sol. + quinin + patient's serum + blood of patient, with very enlarged spleen = H.
7. .8 nacl. + patient's serum + malarial blood = no h.
8. .8 nacl. + quinin + patient's serum + malarial blood = H.

Time forbids me to enter upon a discussion of these findings, the weak points in technique of which I appreciate, but they are interesting, and I hope others may be stimulated to investigate their possibilities.

Urine. From 10 A.M., 9th, to 10 A.M., 10th, forty and one-half ounces of urine were passed, the color of which may be

* h = slight hemolysis.

† H = complete hemolysis.

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observed from these bottles (exhibiting), one of which is a sample of each passage of urine in the order in which it was passed. From 10 A.M., 10th, to 9 P.M., when the urine was free from hemoglobin, twenty-five ounces were passed. The specific gravity varied from 1020 to 1022 reaction acid. No further examination was made of it.

To sum up this case: The evidence of malaria was present in the presence of scant parasites before the attack, which doubtless would have been present in much larger numbers had not quinin been administered previously. There is further evidence (and sufficient) in the presence of pigmented leucocytes and the characteristic leucocytic variation of malaria. There is a history of quinin immediately preceding the attack; this may or may not have precipitated the attack; the experiments *in vitro* would indicate that it did; whether it did or not, neither the quinin nor any antiperiodic had any indication in this case after the development of hemoglobinuria. No antiperiodic was administered at all after 6 A.M. on the 9th. The treatment consisted solely of calomel, fifteen grains, in three doses; sodii sulph., ℥ ii; chloroform water, ℥ ii, every two hours until the bowels moved freely; normal salt solution per rectum, liquid nourishment, and warm drinks freely.

ABDOMINAL SURGERY.*

BY G. W. PENN, M.D.
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NOT being an advocate of too much specialism in medicine, I shall treat the subject of abdominal diseases from the standpoint of the general practitioner, the only truly proper view to take of any subject concerning the science of medicine. Some great medical writer has well said that the best surgeon was the doctor that could do surgery—meaning that a one-sided study of the complex pathology involved in any given case, did not meet the highest ideal of the truly great operator.

It is a matter of common knowledge that the great advances made in all surgery are due to the discovery of the rôle of the pathogenic flora, and the means of preventing its growth

* Read before Gibson County (Tenn.) Medical Society, Trenton.

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in wounds, antisepsis and asepsis; and yet, strange to say, many physicians are still incredulous regarding this now demonstrated epochal fact.

Our understanding of the term "vital structures" or vital organs has greatly broadened since Lister's pioneer work became generally known, and even the heart itself is now successfully sutured. The reason for the enormous amount of surgery done within the sacred precincts of the abdominal and pelvic cavities is not far to find; abdominal diseases, and in the case of the female, pelvic diseases especially, are among the commonest afflictions of humanity. Given a comparative assurance of success, the frequent invasion of these cavities was to be expected; for their pathology is so varied and so frequently fatal, or the course of chronic invalidism even worse than death, that any comparatively safe means of relief is accepted by most sufferers from this class of afflictions.

It would be futile for me to attempt in a paper of this kind a perusal of the routine procedures so well described in our text-books, of the various operations of the peritoneal cavity. When books like Kelly's *Operative Gynecology* are available, such an effort would be a work of supererogation. However, having had some experience in abdominal work of quite a varied character, I would insist that the obstacles to successful work of this kind by country practitioners, *not afraid of tedious detail*, are far from insurmountable.

The secret of success lies in the recognition and the careful fulfillment of the minutest details of the great principles of aseptic surgery. Pardon me if I quote from my grandfather, Dr. W. H. Stilwell, in the 1890 Transactions of the Tennessee State Medical Society. Notwithstanding the fact that he had not practiced medicine for twenty years, he voiced this prophetic message: "Being of a somewhat poetic temperament, I believe the time is coming when many surgeons will practice that ideal of surgery successfully and aseptically, not antiseptically, when we will be able to secure at the operating table perfect asepsis. It may seem impracticable now, but I believe the time will come when we shall be able to arrive at perfect asepsis in our surgical operations, when healing by first intention will at once take place." The above prophetic utterance

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has found fulfillment in thousands of cases during the last few years.

I would like to impress one point concerning operative procedures in general, viz.: while expedition was a paramount element in the success of the surgeon of a quarter of a century ago, rapidity of technique no longer obtains. The reason is simply that asepsis has rendered safe the necessary manipulations, and a more perfect study of each case is attained by the deliberate methods now in use.

From the above statements it will be seen from the strictly scientific standpoint, that the technique of abdominal surgery does not differ from the surgery of other regions, and the only excuse I can see for an exclusive study of this part of the anatomy, is the fact of its more frequent morbidity, and the greater necessity of care in aseptic detail. The latter is not a good reason, for it is the sacred duty of every man who presumes to do surgery at all, to keep an aseptic conscience, which is equally, if not more essential than the clean conscience, using the term in the moral sense. Either the present methods of instruction in our medical schools are radically inefficient, or men engaged in the practice of medicine in the rural districts are inexcusably obtuse, for it is a matter of common occurrence to hear them minimize the necessity for complete asepsis, upon which such great stress is laid by the most successful operators. We need another Semmelweiss to preach with indomitable persistence on every street corner the absolute, paramount importance of the principles first promulgated by the great Lister.

If anyone is inclined to think I put too great stress on a subject that should be as familiar to physicians as a household word, let him recall the few men who *literally* practice the ideal aseptic methods. I have seen physicians wash their hands in soap and water (clean from a housewife's standpoint only) and scratch their faces with a fingernail during an operation. I recently saw a young man, with hospital experience, blow through a needle with which he was injecting a normal salt solution. This state of affairs must stop before modern surgery can be done in the country.

For the purpose of further elucidating this idea, rather

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than for any merit of the cases, I will report a few recent operations:

In January, 1899, Mr. S., of Bells, Tenn., was operated on for appendicitis. The case was a recurrent attack of about eight days' duration. Temperature 103°F., pulse 105, considerable sick stomach, and marked tenderness in region of the appendix. In the first place, the walls of the room were wiped down with a 1 to 500 bichloride solution, as was also the floor, all draperies having first been removed. The patient's abdomen was shaved, scrubbed with lye soap and alcohol, which makes a first class tincture of soap, then with a 1 to 1000 bichloride solution, finally with ether, and that was washed away with a sterile salt solution. The hands were thoroughly washed with soap and sterile water, bichloride solution, and finally with plain sterile water, the nail brush being freely used, and fully from five to ten minutes consumed in the whole process. Instruments, etc., were sterilized by boiling forty-five minutes in sterilizer, soda being added to water to prevent rusting. All gauzes used for sponging and dressing were, of course, thoroughly sterilized by heat. The usual operation for such cases was done, and a teacupful of pus evacuated; a simple gauze drain was used; the patient's temperature on being put to bed was normal, a point never passed, and recovery was rapid and uneventful.

In February of this year Mrs. J. came to Humboldt from Dyer for examination; she had very decided nephritis, to which was attributed an enormous enlargement of the abdominal cavity; but a careful examination, and a failure to get more than half the contents of the abdomen on tapping, as well as a total absence of any evidences of arterio-sclerosis, which so invariably accompanies the ascites of interstitial nephritis, led me to believe that a multiple cystic adenoma of the ovary was present, and that the nephritis was from pressure. With this idea in view, the abdomen was opened under the most scrupulous aseptic precautions, towit: for two days before the operation the walls and floor of the room were scrubbed with a 1 to 500 bichloride solution, everything removed from the room, the injunction not to sweep on the morning of the operation given, the floor sprinkled freely on day of operation with the bichloride solution to settle dust, and on the night before the abdomen was thoroughly shaved and cleaned. On morning of operation an enema was used to clean out bowels, the thorough scubbing advised by Kelly carried out, and the abdomen opened. All instruments and suture material were boiled forty-five minutes in an Arnold sterilizer.

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About one gallon of extramural fluid escaped from the peritoneal cavity, and a multilocular cyst, weighing sixty-eight pounds, removed; the temperature never passed 99½°F., a point reached for about three days, and owing to the fact that about a quart of salt solution was left in the abdominal cavity, and a like amount thrown into the colon, there was not excessive thirst.

In March past, Mrs. G. was operated on for tubercular peritonitis. She was emaciated to the last degree, bedridden for five months, with a temperature reaching 102 or 103°F. every day. I had urgently advised operation a year previously, but it was declined, and I consented to operate at this time with the understanding that it was probably too late to accomplish much. The patient bore the procedure well, considering her weak and exsanguinated state, and for about two months her fever never reached more than 101°F. The whole peritoneum, the omentum especially, was thickly studded with tubercles. The right tube was removed owing to advanced involvement.

This case is instructive as illustrating the impunity with which we may invade the peritoneal cavity, under careful asepsis, in the most unfavorable cases. This case certainly could not have resisted any amount of infection, and would almost surely have recovered her health had the operation been done a year before as advised. She is now living, but her condition is at this time no better than before operation.

Another very interesting case:

About six years ago Miss D., of Crockett county, came for examination. I found a freely movable tumor about two inches in diameter in abdominal cavity. There was no history of pain and the patient went to Dr. W. W. Taylor, of Memphis, for exploratory incision. He found a floating spleen, but did not remove it on account of a promise made the patient. For two or more years previous to the fatal accident to be described, the spleen had become very much enlarged, probably due to malarial toxemia. I examined her at my office on May 4th, and found abdomen about the size of a three months' gravid uterus, and advised the immediate removal of the spleen. This was declined and on June 4th, just one month from this time, I was called to see her and found the following history; four days previously, while digging a hole in the ground with post-hole auger, she had felt a sudden pain and sensation as of something moving in the abdomen. A physician was called; by the next morning there was great

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tympany, rapid pulse, pain, but no fever. Three days later I saw her; condition same, except on evening of my visit there was a little fever. The indications seemed to point to intestinal obstruction, the bowels not having moved at all since the accident, with general acute peritonitis, and while it was only a forlorn hope, the abdomen was opened and the spleen, weighing over three pounds, with a very much twisted and strangulated pedicle, removed. There was no mechanical obstruction to the bowels, and the obstipation was evidently due to pressure, paralysis or some vasomotor disturbance brought about by the twisted pedicle. There was little redness or evidence of inflammation except of the spleen itself. The stomach and bowels contained enormous quantities of gas, the stomach being larger than a quart cup and almost as hard. This gas was removed by puncture, and the wound dressed without drainage. The patient died about eight hours later, getting no relief except the slight comfort from the removal of the large quantities of gas.

I wish to report an intestinal anastomosis by the Connell suture method, so well described by its originator, Dr. F. G. Connell, of Chicago, Illinois, in the October 12th, 1901, *Journal A. M. A.* The case was an experimental one, a dog being used.

As you are aware, the advantage of this form of suture over others in use, is that all knots are left in the lumen of the bowel. The dog's ileum was severed completely, and the suture inserted *à la* Connell. The ingenious manner of tying the last stitch, by bringing the ends of the thread out between two sutures on opposite side of gut with a threaded needle, eye end first, forming a loop to act as a carrier, pulling suture ends until bowel walls approach each other, tying in this position and then permitting the last knot to slip within, on the bowel resuming its normal contour, is a distinctive feature, and a perfectly practicable procedure.

The dog in question made a speedy recovery, the bowels moving on the fourth day, and on the sixth day he escaped from his confinement and whipped two other dogs about his size. He is living and well now, two months since operation.

The only object I have in giving these cases in some detail is, as stated before, to try to impress the importance of asepsis. In the country it takes trouble, but a human life is very precious, and carelessness is criminal. The fact that many cases would not become infected without so great care being used

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is no excuse for a failure to employ the best methods in every case, for though ninety-nine recover under slipshod methods and one dies, murder has been just as surely done.

Again let me say, *don't be afraid of tedious detail.*

REMOTE RESULTS OF OPERATIONS PERFORMED UPON THE FRONTAL AND MAXILLARY SINUSES.*

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Translated from the *Revue Hebdomadaire de Laryngologie d'Otologie et de Rhinologie*, Vol. 23, No. 32, by Richmond McKinney, M.D., Memphis, Laryngologist to East End Dispensary and to Presbyterian Hospital.

THE disproportion between the subject which I have been requested to treat upon before you, and the short time that is permitted me for this purpose by the rules of the British Medical Association, oblige me to present to you but a short résumé of my paper. I must confine myself to giving the conclusions, referring those of my hearers who may desire to criticise my assertions, arguments and observations in full, to my complete paper which will be published *in extenso* ultimately.

(A) If radical operations for sinusitis be still scoffed at by all rhinologists, the causes are:

1, That certain operators press intervention too much, without having sufficiently tried conservative treatment; 2, that at times the operative results are published too soon, without having demanded time to consecrate to the healing. Therefore I have established the indications for radical operations in advance of a criticism of the results.

(B) Above all, we desire to take into consideration two questions:

1. Are frontal and maxillary sinusitis of sufficient gravity to authorize radical surgical treatment? Certainly, because:

1. They menace the encephalon. Frontal sinusitises especially gives rise to meningitis, to abscess of the brain, which is becoming more and more numerously recognized. 2. They

* Presented to the Section on Laryngology, British Medical Association, Manchester meeting, 1902.

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menace the orbit and the eye. Maxillary sinusitis produces orbital phlegmon; it likewise compromises the lacrymal ducts, and produces lesions of the tractus uvalis. 3. It menaces the respiratory passages. Descending laryngitis and also pseudo-pulmonary tuberculosis follow in its train (Moure and Brindel). 4. It causes general disorders.

2. May not frontal and maxillary sinusitis heal spontaneously? An acute sinusitis may heal in this manner, but not always, for, in a study of 42 cases of chronic sinusitis which I published in 1898, 12 had made their début in an acute fashion. Chronic sinusitis, on the contrary, never heals of itself; observations of this nature apparently are erroneous.

Therefore, since these sinusitises are grave and do not heal alone, it is necessary to secure at any price their radical cure.

(C) I base this study exclusively on personal statistics of 112 cases of sinusitis, retaining only those cases which my assistants, Messrs. Laurens and Mahu, and myself have followed from commencement to termination.

These cases are thus:

Isolated maxillary sinusitis, 76.
Isolated frontal sinusitis, 4.
Fronto-maxillary sinusitis, 30.
Fronto-ethmoidal sinusitis, 2.

(D) The sinusitises being clinically variable in their manifestations, a uniform treatment is not applicable to the whole. The classification which appears to me to best show the therapeutic indications is the following:

The sinusitises are:

a) isolated; b) combined.

In each of these two classes, it is necessary to establish an inferior division between the simple sinusitis, where the suppuration is limited to the diseased cavity, and the complicated sinusitis, where the neighboring portions are involved.

FIRST CHAPTER.
ISOLATED FRONTAL SINUSITIS.

Isolated frontal sinusitis is rare (4 in 36 according to my statistics). It is ordinarily associated with maxillary sinusitis. Further, all frontal sinusitis is anatomically combined with a limited anterior ethmoiditis.

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Isolated frontal sinusitis is always an affection of nasal origin. Its sole cause is the retention of pus following a narrowing of the naso-frontal canal; this consideration dominates its entire treatment.

(A) *Simple form.* Frontal sinusitis is acute at its début. It is justifiable to treat it conservatively, which most always cures. In 1898, I indicated an almost specific treatment of this affection, which consists in the very frequent and prolonged inhalation of the vapor of mentholated water, aided, if necessary, by the procedure of negative politzeration suggested by Seifert. This treatment calms the most violent pain in twenty-four hours. All of the acute frontal sinusitises, even the most intense, which I have thus treated, were cured in a space averaging from two to six days.

In case of failure, we may as a substitute attempt irrigation of the sinus through a catheter by its natural orifice. Theoretically, this catheterizing is possible only one time in four (Sieur and Jacob). Clinically it may be utilized a little more frequently. In all cases, it is absolutely inoffensive. On the contrary, direct penetration into the sinus with a probe, by an artificial opening (Schaeffer), at the level of the olfactory opening, is a very dangerous procedure, and should be rejected, having already caused much meningitis.

The sole tentative endo-nasal surgery which may be authorized is the clearing of the inferior meatus (ablation of the anterior third of the middle turbinal and curettage of polyps), which permits the more ready issue of the secretion from the frontal sinus, and more or less calms the pain (Hajek).

When all of these means have been employed without success, there remain to the patient two alternatives:

Neglect of the sinusitis, which may invite disaster, or submission to a radical cure by an external operation.

The operations to this end have a difficulty to overcome, that is with respect to the preservation of the visage. Also they are numerous.

Leaving out of consideration the very simple methods of the old surgeons, always terminating by creation of a fistula, I do not think it necessary at this time to retain other than two procedures among those most recognized—those of Luc and of Kuhnt.

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1. *Method of Luc* (or of Ogston-Luc). This procedure in résumé is as follows:

1st, Open the sinus by the external route; 2nd, curette the cavity; 3rd, assure drainage through the nose by enlarging the fronto-nasal canal; 4th, immediately close the frontal wound. Conservation of the cavity of the sinus and nasal drainage are its two characteristics.

The advantages of this procedure are the following:

1st, It avoids all disfiguration; 2nd, it insures immediate union of the wound; 3rd, it systematically opens the anterior ethmoid cells.

The disadvantages of this procedure are the following:

1st. It is exposed to ready recurrence, which is then graver than the first attack; these recurrences are due at times to insufficient curettage, at times to the unrecognized existence of inflammation of the opposite sinus, or of a corresponding maxillary sinusitis; 2nd, it exposes the scalp to a phlegmon; 3rd, it exposes to sinusitis the opposing frontal sinus; there is a liability to encephalic complication.

This method has at times afforded admirable results at the hands of experienced operators (8 in 8, Lubet-Barbon), but we cannot deny that it is attended with great risk.

In 36 cases of frontal sinusitis, according to my statistics, 17 were operated by the procedure of Luc; 9 were cured primarily, 8 recurred; of these, 5 have since healed after operation by the method of Kuhnt, 1 by method of Luc reapplied, 2 died (meningitis, slow septicemia).

2nd. *Method of Kuhnt.* This procedure is proposed for suppression purely and simply of the frontal sinus, guaranteeing the patient surely against recurrence. Kuhnt resects entirely the inferior wall, then he practices a careful curettage. Care is taken not to enlarge the naso-frontal canal, avoiding communication of the wound with the nasal fossa. Drainage is by the external route, leaving the wound partially nonsutured. Recovery demands from three to six weeks. The advantages of this procedure are in giving a certain cure and without danger.

The disadvantages are the following:

1st, It necessitates external drainage, with the discomfort of prolonged dressing; 2nd, it does not open the anterior

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ethmoid cells; 3rd, it leaves behind it an accentuated deformity; 4th, it frequently occasions diploplia.

According to the example of Tilley, we may take of each of these two procedures that which is best, and thus constitute an operation almost ideal, called the operation of Kuhnt-Luc. This is what instinctively has little by little been adopted by the majority of the operators of France.

Method of Kuhnt-Luc. Of the procedure of Kuhnt, it takes that which has given it curative value, that is to say, a total resection of the anterior wall of the frontal sinus, permitting perfect curettage and suppression of the diseased cavity. Of the procedure of Luc, it takes that which has given it elegance, that is to say, the fronto-nasal drainage, which largely opens the anterior ethmoidal cells, and permits the immediate closure of the wound.

But there still exist two disadvantages:

1st, Frontal deformity, which is above all disagreeable, in that the sinus is very large; it is probable that we may be able to correct this with the aid of prosthesis by injections of paraffin; 2nd, diplopia; this is due to suppression of the action of the superior oblique muscle, the pulley of which has been involved during the operation. This complication, impossible to avoid by reason of the variable situation of this pulley (Stanculéanu), may be corrected by a complementary operation, which consists in the advancement of the right inferior muscle of the diseased side (Landolt.)

The excellence of the method of Kuhnt-Luc is demonstrated by the statistics. Although in 17 Luc's operations, I had only 9 recoveries, in 11 cases of Kuhnt-Luc operations, I obtained 11 recoveries. And, moreover, in 6 cases treated by the Luc method that recurred, the operation of Kuhnt-Luc practiced thereafter gave in five instances a definite result. This healing is obtained very rapidly. After the second week, all dressing becomes unnecessary, and the patient may resume his occupation; it now remains merely to make intranasal dressings for some time.

I conclude by recommending the systematic and constant application of the method of Kuhnt-Luc to all those cases of non-complicated frontal sinusitis which have resisted conservative treatment.

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(B) *Complicated Forms.*

a) *Frontal sinusitis complicated with orbital fistula.* If the fistulous tract may be dissected in its entirety, and if the necrosed osseous wall may be totally resected, we may attempt the immediate union of the frontal wound by the Kuhnt-Luc method.

b) *Frontal sinusitis complicated with frontal phlegmon.* In similar cases, where the deep surface of the soft portions is infected, there arises a serious situation which prevents immediate union. The procedure of Kuhnt alone is here indicated, external drainage being the safeguard of the patient.

c) *Frontal sinusitis complicated by encephalic lesions.* Operation is imperative, even in the most recent cases, and is done at this time by extensive incisions and resection; in brief, an atypical operation, according to the usual rules of general surgery.

SECOND CHAPTER.

ISOLATED MAXILLARY SINUSITIS.

Contrary to frontal sinusitis, maxillary sinusitis is more frequently isolated. In 106 cases of maxillary sinusitis, according to my statistics, 75 were isolated. The frequency of maxillary sinusitis is due to the duality of its etiology.

1st. *Nasal type.* Same pathology as in frontal sinusitis. The cause is the retention of the secretions, favored by the non-dependence of the orifice.

2nd. *Dental type.* Caused by neglected dental lesions.

In this connection it is necessary to remark that the infected teeth assume three clinical types: open dental caries; badly disinfected closed teeth; dead unexposed teeth. In all the cases, the infection extends from the mouth to the sinus exclusively by the dental canals.

Dental origin is more frequent than nasal. (See the statistics).

In the nasal form, it occurs as a true sinusitis. In the dental form, there is in the beginning a simple empyema of the sinus following the sudden rupture into the cavity of a peripheral radiculo-dental abscess; it is not long before the empyema is transformed into a chronic sinusitis.

The chief diagnostic point of suppuration of the maxillary

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sinus is to establish a distinction between true sinusitis and an empyema, in which latter the healthy cavity contains pus without having manufactured same. It is because this fundamental distinction is unrecognized, that certain authors, especially dentists, arrive at conclusions which give rise to complete confusion in the treatment of maxillary suppurations.

(A) *Simple form.* The conservative treatment, which should always be applied in the beginning, proposes:

1st, to cause cessation of retention; 2nd, to suppress the cause.

In the acute sinusitis of nasal origin inhalations of mentholated vapor have their indication. Hajek gives as the duration of this form treated by ordinary means an average of three to six weeks. In all the cases that I have treated with menthol, I have had recovery inside of eight days.

In recent dental empyema, it is necessary in advance to suppress the cause by extracting the suspected teeth, open or closed, incising the gingival abscess and removing the alveolar sequestra. But, especially, it is necessary to avoid, as is the custom with dentists, the making of a communication between the alveolar process and the sinus, and placing in this tract a metal tube, by which the patient may practice lavage, which is more or less indefinite. It is necessary, on the contrary, to gently extract the tooth, in a manner not to create a communication between the alveolus and the sinus, if this does not exist already. This done, two conditions are presented: a) Where already the sinus connects with the mouth: it is necessary then to profit by this route for making evacuant lavage, but without enlarging in any manner the drain; b) where this communication does not exist, avoid its establishment, and then evacuate the pus with the aid of lavage by the nasal opening.

At the same time, it is necessary to favor the cicatrization of the alveolar opening, and to bear in mind that no intervention will certainly cure the maxillary sinusitis, if the teeth are not healthy and the gums clean.

If these means fail, may we propose intervention? Not yet. It is necessary a second time to practice conservative

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treatment: repeated lavage of the sinus by the nasal opening. This lavage may be made at times by the natural orifice, again by an artificial opening.

1st. *Lavage by the natural orifice. Catheterism of the sinus.* This procedure is inefficient for the following reasons: a) The finding of this orifice is difficult by reason of its situation and on account of the polyps which cover the opening; b) lavage made by this route is insufficient because there is no opening in the dependent portion of the sinus; and likewise because there does not exist a counter opening permitting the establishment of a current of liquid. The existence of an accessory orifice renders this more facile, but this peculiarity is not encountered more than eight times in one hundred.

2nd. *Lavage by an artificial opening. Puncture of the inferior meatus.* The thinnest wall of the sinus is in connection with the outer wall of the middle meatus, but at this level, the trocar risks penetration of the orbit. On the contrary, puncture at the level of the inferior meatus is absolutely harmless. Entering the sinus by its dependent portion, with little pain, it gives excellent results, and may without exception patiently be essayed in all cases of chronic non-complicated maxillary sinusitis.

In thirty cases of empyema or chronic sinusitis of my statistics, thirteen were totally cured by this method, that is, 43 per cent. In general three to a dozen irrigations are necessary to obtain this result. The age of the lesion is of little import: twice I have secured healing, with a single irrigation, in old maxillary suppurations dating back a year. This recovery thus obtained in the space of two or three weeks, is absolute, with integral return of the transparency of the sinus.

Alveolar perforation of the maxillary sinus: drainage by the mouth. When a chronic maxillary sinusitis resists the preceding treatment, we may tentatively, prior to proposing to the patient a radical intervention, offer him a treatment which truly is surgical in name, though the operation demanded is minimal, and which consists in perforation, sometimes at the alveolar surface, sometimes at the level of the canine fossa, of the wall of the sinus in a manner to assure constant depend-

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ent drainage, and permit the patient to uninterruptedly wash out the cavity of the sinus.

This treatment had great vogue ten years ago, when we had not yet learned of the utility of the menthol inhalations, nor of the efficiency of lavage by the inferior meatus, and when surgery had not furnished a sure and rapid curative operation.

I note in my statistics that this method was applied forty times, and gave 17 recoveries, that is, 45 per cent.

This proportion is a little more than that which is given by lavage by the inferior meatus, nevertheless, despite this, buccal drainage appears to me much inferior to lavage by the meatus for the following reasons: 1st, recovery is very slow and demands not only several weeks, but frequently one or two years. 2nd, recovery is uncertain: in half of my healed cases the transparency of the jaw has not returned. 3rd, the non-cured patient is an invalid, wearing a prosthetic apparatus which he is condemned to care for always. 4th, the infection of the frontal sinus is to be dreaded following forced lavage, which the patient may accidentally make (see observations.) 5th, finally, this procedure is to be charged with the grave reproach of establishing in the involved portion a communication between the mouth and the maxillary sinus, an unphysiologic anastomosis, and contrary to the biologic condition of the maxillary sinus. I conclude by rejecting this procedure, and in counseling advice for an extensive radical cure of those cases of maxillary sinusitis in which lavage by the meatus fails to cure.

RADICAL OPERATIONS.

Of the various operative procedures suggested for the radical cure of maxillary sinusitis, but two deserve to be retained: the procedures of Desault and Luc.

1st. *Desault's method.* Its principle is very simple. It creates at the level of the canine fossa a large permanent opening, which has for its aim: 1st, the creation of a passage for instruments with which to curette the diseased mucous membrane; 2nd, the observation of the sinus during reparation.

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Theoretically, this procedure is perfect, because it permits the regulating of the healing process. Practically, it gives deplorable results: 1st, the dressings are very painful and must be repeated indefinitely; 2nd, while they are being used, the patient is condemned to eat all of his food flavored with "iodoform sauce" (Luc); 3rd, a protracted infirmity follows healing, the maxillary sinus becoming an abnormal diverticulum of the buccal cavity.

Radical cure, even at this price, is far from being assured. Despite the voluntary silence of statistics on this point, it is obtained in less than half of the cases (16 in 37, Hajek). The duration of the treatment is from one to two years.

2d. *Luc's method* (or Caldwell-Luc). It creates at the level of the canine fossa a temporary orifice, which permits inspection and curettage of the mucous membrane, and whose ephemeral existence is measured by the extent of the operation; it establishes between the sinus and the nose a permanent communication, which assures drainage of the cavity. Its originality consists of associating uniquely and advantageously the buccal route for the convenience of the operator, the nasal route for the innocuousness of the drainage and the comfort of the patient. The after treatment is very simple. In eight days the buccal wound is reunited and the patient may resume his occupation; it suffices for him to cleanse his nose during several days. Compared with the procedure of Desault, this operation has the following advantages: 1st. Dressings are painless, and consist solely in several irrigations by the nose. 2d. The condition of the patient in the interval between the dressings is the same as if he had not been operated upon. 3d. *Restitutio ad integrum* follows healing. The sinus remains cured, and by this method it empties solely into the nose.

The excellence of this procedure is affirmed by the certainty and the rapidity with which it brings a radical cure.

My statistics relate forty-six Luc operations, with forty primary recoveries. In all these cases, the sinusitis was chronic and tenacious, having resisted a large number of irrigations, made in some by the inferior meatus, in others by an alveolar drain. Lubet-Barbon and Furet, Moure and Liaras have also

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had good results. Collated statistics give a percentage of 85 per cent. of primary recoveries.

The rapidity of these cures is not less remarkable. In my forty cases they required an average of five weeks, many times merely fifteen days, contrasting sensibly with the two years demanded by the procedure of Desault. Further, my observations in detail enhance the value of this comparison. The operation of Luc may be used in all cases of simple maxillary sinusitis, and the failures are due almost wholly to its having been applied to cases of complicated sinusitis, which we may remove by other methods.

Certain English authors, such as Killian, reject the adoption of this procedure because it does not permit observation of the reparative process. But, as recently justly recognized by Hajek, it is this feature which makes the procedure advantageous, since it protects the mucosa on its way to recovery from all untimely treatment.

I report in my complete work two very curious cases, where the operation of Luc obtained at my hands, in less than two months, definite healing of chronic maxillary sinusitis, which had been, during several years, treated in vain by the first English rhinologists, according to their so-called classic methods.

(B) *Complicated forms.*

a) *Exterior maxillary sinusitis.* If there exists a phlegmon of the jaw or the orbit, it is at once necessary to open the tract or collection according to the usual rules of surgery; then, following this make a large opening by which the sinus may be curetted. Such is, at least, the classic treatment, which risks causing an external sinus suppuration, leaving a disfiguring cicatrix. It is better to conduct it in the following fashion: permit the phlegmonous outbreak to subside while applying local treatment; then later, after its subsidence, perform the Luc operation. The fistula here cicatrizes and the sinus ceases to suppurate.

b) *Maxillary sinusitis complicated with alveolar ostitis.* In order to obtain a cure, it is necessary to resect the entire diseased portion of the bone. It may be that we will obtain this at times by removing almost the entire floor of the maxillary sinus. In this case, and in this alone, the Luc operation

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should give place to the operation of Desault; the Luc operation should also not be attempted tentatively, because it is an error to establish a large naso-sinusal communication in a patient destined very likely to preserve a definite anastomosis between the sinus and the mouth.

THIRD CHAPTER.
COMBINED SINUSITIS.

Frequently the same patient may carry at the same time two or more sinusitises. Being given the number of sinuses, the possible combination of these sinusitises mathematically attains to 1023. I consider here only those types the most frequent.

1st, *Fronto-maxillary type.* This combination may be effected in three ways: 1st, the two sinuses may be contaminated simultaneously by the nasal route; 2nd, the maxillary sinus, already contaminated, the more frequently by the dental route, infects secondarily the frontal sinus; that is the ordinary pathology of this bisinusitis; Lubet-Barbon has shown that at times (see observations) there may not have been a frontal empyema, and that treatment of the maxillary sinus alone suffices to cure; 3rd, finally, the frontal sinus, alone attacked in the beginning, secondarily infects the maxillary sinus; here again the maxillary suppuration may be nothing more than a simple empyema, which a limited operation of the frontal sinus heals (2 cases of Furet, 2 personal cases); these very curious observations afford a new conception of the association of the sinuses.

Conservative treatment may be essayed against fronto-maxillary sinusitis (lavage by the nose and amputation of the anterior end of the middle turbinal), but without much chance of success.

The surgical treatment obtains, to the contrary, a rapid cure, and more certain than in the case of isolated maxillary sinusitis, inasmuch as it appears (see case of Lubet-Barbon) that the failure of the Luc operation may frequently be due to the nonrecognition of an associated sinusitis. We proceed thusly: 1st step, operate upon the maxillary sinus by the Luc method, except for the buccal suture; then make a provisional hemostatic tamponment; 2nd step, after having cleansed the hands,

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as though it was intended to operate on another patient, and with other instruments, open the frontal sinus by the Kuhnt-Luc method. 3rd step, return to the maxillary sinus, again inspect its cavity and close the buccal wound.

2nd, *Double maxillary type.* The co-existence of double maxillary sinusitis aggravates in no respect the prognosis. It is not rare that the two sinusitises are of a different age, and that one heals readily by conservative treatment, whilst the other demands radical cure.

3rd, *Double frontal type.* I perform a radical cure in the same séance, by the Kuhnt-Luc operation, and have care to totally destroy the intersinusal septum. Deformity may follow, but is much less disfiguring, since it is symmetrical (Luc).

4th, *Double fronto-maxillary type.* If the general state of the patient does not permit quadruple intervention in a single séance, it is necessary to perform at one time two frontal and one maxillary operations: because, in the last, the reinfection of one side by the other is little to be apprehended.

5th, *Pansinusitis.* It is a pansinusitis when the fronto-maxillary suppuration is associated with an infection of the ethmoid or of the sphenoid. It is these last lesions, little accessible, which impress a grave prognosis. It is particularly in these that the treatment should be considered, but not caring to detract from this subject, I leave it to the care of Messrs. Grünwald and Lambert Lake, who are charged to introduce the discussion upon this point before the British Medical Association.

THE VALUE OF HISTORY-TAKING IN GENERAL PRACTICE.

BY RAYMOND WALLACE, M.S., M.D.
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It is scarcely comprehended what a vast mine of valuable information, both clinical and scientific, lies unblasted at the feet of every practicing physician. In the past few decades medicine has made wonderful strides, but the greatest part of this progress has come from the hospitals and medical centres of the world. The reason why Germany has given so much

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to clinical medicine is because her men are trained in the penetrating observation of detail and the systematic tabulation of prolonged observation and experiment.

The real value of accurate observation and a full record of notes cannot be overestimated in any field of science. From earliest times the most valued additions to our actual knowledge have come not from the wild speculations and theories of the philosophic, but from the detailed and careful records of the penetrating student. Leibnitz, Hume and Kant held the whole world spellbound in the thralls of their philosophic meditations, but it was not until the days of Lamarck, Darwin and Weissmann that real progress was initiated along the lines of biologic and anthropologic problems.

So also in the realm of medicine. How invaluable are the classic records of John Hunter or of Sir James Paget. Even Hippocrates, the father of all medical lore, has left records which bear with impunity the searchlight of modern thought and investigation.

History-taking as a routine measure in the office and at the bedside is not only of value because of the facts themselves, but by stimulating a search after the whole truth; thus training one in accurate observation of detail, it helps in attaining a correct diagnosis, and the systematic arrangement of facts in the cases of a general practice makes the accumulation of trustworthy statistics possible. Notes taken at the bedside, though poorly written and worded, are better far than the most elegantly arranged notes which have been, perhaps, padded and changed in the copying.

A recent editorial, in contrasting theory and observation in medicine, suggests that it would be a priceless boon to medicine if the lesson could be learned that not brilliant speculation, nor theories, however suggestive they may seem, are so much wanted as patient, painstaking observation. A realization of this would make the humblest of the profession a contributor to the great fund of knowledge which is redeeming the practice of medicine from an art based upon trembling theories, and help to place it upon a foundation of cold, scientific observation and fact.

Various methods of history-taking and history-recording

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are employed, and the methods may become almost as numerous as the roll of the profession. But in general it may be stated that the less complicated the plan the better. In hospitals and asylums the plan is, of course, more elaborate than in private practice, for the collaboration of nurses and orderlies makes it possible. But the purpose of this article is to point out to the man in general practice how he can, simply, advantageously, and without much expenditure of time and effort, make records which shall be not only of inestimable value to himself and his patient, but to the whole profession and humanity.

It is scarcely worth while to attempt to discuss the myriad forms of history blanks which may be used. For a small expenditure a thousand blank cards may be cut to fit the pocket, and the printed matter should be as simple as possible. I have seen history blanks carried by men in general practice which had outlines to include everything, from the maladies which carried away the five preceding generations of ancestors to a rehearsal of the most unessential facts which could never be of the slightest value. The general headings are sufficient, and the details may be varied with the individual case. Indeed, no one outline could be made that would exactly fit every case. The salient headings which may be employed in the majority of cases may be enumerated as follows: *Name; address; social condition*, such as married, single, widow, number of children, etc.; then under the heading of *Family History*, the various elements of heredity and predisposition may be included; the next caption in logical order is *Past Condition*,—which may include every fact regarding past illness, habits, accidents, etc., which may be of any relational value; then under *Present Illness*, the details of the immediate trouble should be outlined in logical order with a full recognition of the salient facts of the case; under *Physical Signs* may be included the objective data which are observed according to the practitioner's routine method of examination. These points should be outlined, with space left for subsequent records on the progress of the case. Some physicians employ a pulse and temperature chart upon a portion of the back side of the card, but as in the majority of

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cases there is no reliable person to make observations between the physician's calls, such a chart seems to me of little value, such data being inserted with other observations. At each subsequent call the results of the laboratory examinations of blood, sputum, urine and stomach contents may also be inserted at the close of the last notes taken on case. If the illness is prolonged, and the first card has been filled, a blank card may be carried upon which to continue the notes.

The details to be entered under each major caption need not be discussed here, since the relative value of this will depend upon the inherent capability of the observer. But even in the hands of the untrained, if observations be made without bias and in a careful and penetrating manner, they must become of increasing value, and I am sure the physician in every case will feel well paid.

As to the disposition of these card-histories after the dismissal of the case, a simple drawer index and file may be improvised according to the wishes and disposition of the one employing the method.

Let me urge upon those who have systematically taken and kept histories of their cases to begin and try it for a few months, and if the gratifying results in improved diagnoses, clearer conception of the disease processes and better results from treatment, because more logically determined, do not follow, then the experience of those who today are giving to the world the greatest amount of reliable clinical data is of no value, and the method of routine history-taking may be cast into utter oblivion.

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PROGRESS OF MEDICINE.

MEDICINE.

UNDER CHARGE OF B. F. TURNER, M.D.
Visiting Physician St. Joseph's Hospital, Memphis.

A Notable Improvement in the Therapy of Typhoid Fever.

The recent discovery, by Duval and Basset, of the presence of the bacillus dysenteriæ (Shiga) in forty cases of infantile summer diarrhea, awakens renewed interest in the subject of

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intestinal antisepsis. But a few months have elapsed since Drs. P. C. Freer and F. G. Novy, of the University of Michigan, demonstrated the enormous germicidal power of benzoyl-acetyl-peroxide, more familiarly known as as acetozone. Although the preliminary reports of these investigators were of necessity based upon results of laboratory experiments, their expectations are already being realized in clinical work, in the treatment of typhoid fever, particularly.

In the city of Chicago, where a large number of cases of typhoid have been reported, acetozone has been used exclusively in the treatment of about three hundred of them. The consensus of opinion is that it causes the temperature to decline earlier than usual in the course of the disease, and it ameliorates the mental and physical condition of the patient, in all probability by controlling the toxemia.

Two Chicago practitioners, I. A. Abt, M.D., and E. Lackner, M.D., have thus far reported (*Therapeutic Gazette*, October, 1902) forty cases of typhoid, in children, treated with acetozone, with but two deaths, a mortality of 5 per cent. One of the patients that died succumbed to pneumonia and pulmonary edema, the other to great pyrexia on the fifth day. Stupor and tympanites were almost entirely absent in all cases; the characteristic typhoid fetor of the stools was markedly diminished, and the hemorrhage occurred but twice, and in the same case. The average duration of the febrile period, in thirty-seven cases, after beginning acetozone treatment, was thirteen and one-half days. The drug did not seem to act upon the heart or respiratory apparatus.

Early this year Eugene Wasdin, M.D., of the U. S. Marine Hospital Service, Buffalo, N. Y., reported twenty-seven cases (*American Medicine*, Feb. 8, 1902) of typhoid fever, twenty-four of which were treated with acetozone, all of the patients recovering. The writer says: "Its application in typhoid fever has been followed by very happy results; its use has been directed to the destruction of the germ in its primary lung colony and also in its secondary intestinal colony, and it has been used by hypodermoclysis to combat terminal expressions, with the result that in twenty-four cases the disease has been limited almost entirely to the expression of intoxi-

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cation from the primary focus, the intestinal symptoms remaining entirely in abeyance, and the disease has been shorn of many of its most disagreeable features."

In a second paper, which appeared in the *Therapeutic Gazette* for May 15, 1902, the same writer states that his patients were given from 1500 to 2000 cc. of the aqueous solution of acetozone daily. The diet was milk diluted with the same solution. The first influence of the drug is observed in the increased secretion of urine. That this is not due wholly to the ingestion of large quantities of water, necessitated by the use of the saturated solution, is evident from the author's assertion that the same result was observed when acetozone was administered in capsules. The second influence to which attention is directed is the very pronounced decrease of the odor of the stools, while plate cultures from the dejecta showed comparatively few germs.

The deodorant and diuretic effects of acetozone were also observed by G. H. Westinghouse, M.D., of Buffalo (*Buffalo Medical Journal*, Aug., 1902), who used it in seven cases. This observer remarks that with the increased flow of urine "a corresponding reduction of typhoid symptoms followed, and tympanites and delirium disappeared." It should be remarked that the diagnosis in all these cases, as well as in most of those reported by the Chicago physicians, was confirmed by Widal's reaction and Ehrlich's test, and in some a blood count was resorted to. Westinghouse concludes his paper by saying that "Acetozone, as an intestinal antiseptic, is unequaled by anything I have ever employed. A complete subsidence of all the bowel symptoms followed in every case of typhoid within a few days after beginning its use. The application of the antiseptic consisted in most cases in simply allowing the patient to drink the saturated aqueous solution ad libitum; or, in other words, substituting this solution for all other liquids, and urging the patient to partake of it freely when the natural craving was not sufficient to insure the consumption of considerable quantities."

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Uremic Aphasia.

D. Riesman (*Jour. A. M. A.*, vol. 39, no. 15) ably reviews this subject, and summarizes the present aspects of its study in the following conclusions:

1. Aphasia may occur in uremia and is at times the sole expression of that state.

2. It may be a precursor of uremic convulsions or coma.

3. It is frequently associated with right-sided motor paralysis, hemiplegic or monoplegic in character.

4. It is usually of a motor type, but may be sensory. There may be word blindness and word deafness. It may be associated with agraphia, even when there is no paralysis of the limbs.

5. It is comparatively frequent in children, particularly in cases of post-scarlatinal nephritis. In adults it may occur in any form of Bright's disease.

6. It is generally transient and has a marked tendency to recur.

7. When paralysis is present the two may disappear simultaneously; the aphasia usually disappears first.

8. The features of uremic aphasia are, *per se*, not characteristic of the causal condition.

9. The most important diagnostic features are the transitoriness of the aphasia and the presence of other uremic symptoms or of signs of nephritis.

10. In every case of sudden aphasia the possibility of its being renal in origin should be considered, and careful studies of the urine and of the system at large should be made with this thought in mind.

NOSE, THROAT AND EAR.

UNDER CHARGE OF RICHMOND MCKINNEY, M.D., MEMPHIS.
Laryngologist to East End Dispensary, and to Presbyterian Hospital.

Sarcoma of the Tonsil.

Von Heinleth (*Med. News*, vol. 81, no. 16) at the Aertzlicher Verein München, read a paper on this subject. Three years ago a large tumor of this variety had been taken from the right tonsil, after the method of Krönlein. The patient is

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still without recurrence, and was therefore presented to the society as an example of permanent cure. About three months after the patient was first presented to the society, namely, about a year ago, a tumor appeared on the opposite side. By the middle of August of that year the tonsil enlarged considerably and began to give symptoms. Upon examination on September 1, the tumor presented considerable size, a mass of hard consistency, a smooth surface, with a pale mucous membrane in contradistinction to the bluish-red color on the right side. There were no glands which could be distinguished as enlarged. The clinical diagnosis was confirmed by a microscopical examination; namely, sarcoma of the round-cell type. Inasmuch as the development of the tumor did not occur in or about the region of the first growth, it seems possible to consider this not a recurrence, but probably an independent neoplasm, due perhaps to a special predisposition on the part of the patient. The author could not be certain whether, after a long-standing right-sided pneumonia, a left-sided pneumonia appearing should be considered as a new disease or as a secondary manifestation, dependent upon the former. In his previous dissertation before the society he advanced the proposition that when the disease has progressed to considerable limits only the extensive extra-oral methods of operating, for example, those of Krönlein, Mikulicz, Brehn and others are available to produce any good results. If, however, early in the disease attempts are made at removal the intra-oral methods—for instance, that of Alexander Fraënkel—are advisable and available. In accordance with this principle, after a previous tying of the external carotid artery he removed the tumor, with a number of hard glands in close proximity to the blood-vessels. When the left side was operated on in the same manner, the wound healed promptly, and without any complications, which was not the case with the right side. Thus after eleven days the patient was discharged with a healed wound. Nine months have since passed without any signs of a return on the left side; therefore it is to be hoped that the patient will continue without any further trouble of this nature.

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PROFESSOR WELCH'S HUXLEY LECTURE

On Recent Studies of Immunity, with Special Reference to Their Bearing on Pathology.

IT would be impossible, in a brief editorial article, to review a lecture of perhaps 15,000 words, and which is in itself a review of the boundless wealth of information gained by an army of workers, all along different lines, but yet tending toward the same conclusions. The very nomenclature is unintelligible to the medical public, and therefore the task is the more difficult. In a paper by the writer, published in this journal in 1895,* he called attention to the fact that an animal could be immunized, not only to bacterial products, but to other specific animal and vegetable poisons, viz., abrin, ricin, snake venom, etc. Later work on specific hemolysins, begun by Bordet and thoroughly worked out by a great many investigators, culminating in the classic work by Ulmenhuth, and Ehrlich and Morgenroth, and also the studies of cytotoxins by Nefédieff, Delezenne and others, has shown that the animal body can be made to produce antibodies to any foreign substance introduced. Thus, blood of a human being introduced into rabbits will cause the blood or serum of this

* The Present Status of Artificial Immunization (read before the Memphis Medical Society.)

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rabbit to dissolve the red blood cells in any human blood or to form a precipitate with the serum of any human blood; the sterile emulsion of guinea pig kidney will cause rabbit's serum to become toxic for guinea pigs; in the same way, neurotoxic, hepatotoxic, pancreotoxic and other cytotoxic sera can be produced. The physiological mechanism, which is apparently able to meet any special pathological emergencies, according to Ehrlich, is physiologically employed for the assimilation of foods. There is no specific immunizing body producible *de novo*, but these phenomena represent an overproduction of a protective substance, which is discharged into the circulation, after certain atom-groups in the molecule of the invading body have combined with similar atom (haptophore) groups of the molecule in the body cell.

To facilitate comprehension of the complex processes at work, it must be remembered that there are two groups of these specific antibodies, in one of which, represented by the antitoxins, the antagonists are single bodies; while in the other, represented by the cytolysins, the antagonistic effect requires the coöperation of two bodies. Of these, the one which actually produces the protective effect is normally present, but is incapable of acting without the intermediation of another, produced by the immunizing reaction, but which may also be present, but in insufficient amount. These are independent of each other; one may be absent or artificially removed without affecting the other. The stable, specific product of immunization is known as the intermediary body, immune body, amboceptor, desmon, etc. It has two haptophoric groups of atoms, one with specific affinity for the haptophoric group of the bacterial cell or its toxin, the cytophile group; the other with special affinity for the complement, the complementophile group; hence this immune body has received from Ehrlich the name amboceptor. The first or cytophile group can combine with the bacterial toxin, if present, and thus prevents it from attacking the body cell for which it is toxic.

The other, nonspecific, unstable body is called the complement by Ehrlich, cytase by Metchnikoff and Alexin by Buchner; the first name is the one most commonly used. This

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body can be removed by washing with isotonic salt solution; has the property of resisting higher temperatures, and partakes of the nature of a ferment, since, without its presence, the specific affinities between the foreign and body haptophores are not provoked.

The invading cell or product in this second (cytolysin) group is not noxious *per se*, but is split up, giving off also two groups of atoms (haptophore and toxic), the former combining with the haptophore group from the body cell, the latter set free. On the side of the body cell the same takes place, and the protective substance is set free. It can thus be seen that the stimulated protective mechanism can work harm to the body itself if the specific toxin is produced in excess of the specific immune body, as will be the case if the invading products are the more active and in excess. Welch calls attention to the fact that what is urgently needed is some method of separating the toxin and complement of the bacteria and the intermediary body and complement of the body cell. Until this is done, immunization against bacteria which produces little or no toxin in the test-tube, and in which the antibody is bacteriolytic instead of antitoxic, cannot be thought of. If it is accomplished, such diseases as tuberculosis, typhoid fever, cholera, pneumonia, etc., can be cured by immune sera. Welch has constructed a working hypothesis along this line, and experimental work in his laboratory has already confirmed the correctness of his logic. He argues that at least one, perhaps both, of the components of the assumed bacterial cytotoxins pre-exist in the bacterial cell, and by adding the other to artificial cultures, the processes, which have hitherto only been observed in the living body, can be studied, to some extent, at least, in the test tube.

Experiments by Flexner and Noguchi have shown, in reference to snake venom, that it contains duplex cytolysins, and that we must abandon the idea of one toxin, antibody or complement in a given infection. Unless all the antibodies to an infection are produced, the immunity is only partial. The appearance of thrombi and metastatic foci, such as represented by typhoid infection, is explained as due to the action of agglutinins. To prevent the formation of these would deprive the bacteria of a foothold in the body.

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Human milk contains the antibodies which protect against the usual invasions of the human body, and hence, any infant food not containing mother's milk deprives the infant of its greatest protection against disease.

We must forego any further special reference on the bearing of these discoveries upon the study of pathology, lack of space precluding extended reference to this epoch-making lecture. It is a subject with which every practitioner should familiarize himself by a careful study of the original article in the *Medical News*. WILLIAM KRAUSS.

THE TRI-STATE MEETING.

It is but a few days until the Tri-State Medical Association of Mississippi, Arkansas and Tennessee will convene in its nineteenth annual session, and the date of the meeting has so thoroughly been heralded in these pages that it is almost useless for us to make further announcement of the occasion. But indications are so very flattering for a splendid meeting that we cannot refrain from again impressing upon the physicians in the states comprised in the association the importance of attending the approaching meeting. In no medical organization meeting in this section are the disease manifestations peculiar to the Mississippi Valley so thoroughly discussed, and their various phases so elaborately expounded. This association is preëminently a working organization, and every moment of the time devoted to its sessions is occupied in valuable work. No physician living in the Memphis territory should fail to ally himself with an organization so progressive in spirit, and so comprehensive in the character of its work. The meeting will be held on the 11th, 12th and 13th of this month, in Germania Hall, under the presidency of Dr. J. B. McElroy, of Stovall, Miss.

The Presbyterian Home Hospital Training School for Nurses graduating class held its reception on Friday evening, October 10, from 8 to 10. The graduates were Mrs. Mayme Browne Dalton, Memphis; Mrs. Ida Louise Schafer, Peoria, Ill.; and Miss Corine Moss Buford, Memphis.

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EDITOR'S NOTES.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION will hold its 15th annual session at Cincinnati, Ohio, November 11–12–13.

DR. JOHN ROBERT TACKETT, of Meridian, Miss., was married to Miss Juanita Ayres, of Columbus, Miss., on October 16th, at Columbus.

THE MEMPHIS CITY HOSPITAL TRAINING SCHOOL FOR NURSES held its graduating exercises and reception to the class on Friday evening, October 3, at 8 o'clock. The graduates were Misses Charlotte Shearer, Stuttgart, Ark.; Frances Jordan, Kosciusko, Miss.; Snow E. McKellar, Senatobia, Miss.; Elizabeth C. Harris, Bolivar, Tenn.; Gertrude B. Bollick, Idaville, Tenn.; Zoe P. Browne, New Albany, Ind.

THE MISSISSIPPI COUNTY (ARK.) MEDICAL SOCIETY held its regular monthly meeting at Osceola on the evening of October 8th. Papers were read by Drs. Richmond McKinney, of Memphis; G. A. Warren, of Imboden; and G. G. Brewer, of Osceola. The next regular meeting of the society will be held on November 5th. Papers will be read by Drs. Charles A. Turner, of Osceola; John Gray, of Luxora; and R. F. Chiles, of Pecan Point.

THE BILOXI SANATORIUM is a recent claimant for patronage by the medical profession. This sanatorium is located at Biloxi, Miss., on the Gulf coast, in that wonderful health-giving climate which is so delightfully salubrious at all seasons of the year. It is not merely in the winter time that the Gulf coast will be found desirable for invalids, but likewise in the summer the cool Gulf breezes contribute to making the Gulf littoral an American Riviéra. Having been organized by physicians, and being under the general managership of that well known Mississippian, Dr. H. N. Folkes, the Biloxi Sanatorium deserves well of the patronage of all members of the medical profession who have patients seeking an equable and moderate climate in winter time and a cool and tonic climate in the summer.

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THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will hold its next annual meeting in Memphis. Dr. John L. Jelks, of Memphis, has been appointed chairman of the committee on arrangements. Every effort will be made by the local profession to render the Memphis meeting of this association memorable to those who attend. The officers for the ensuing year are: President, Edwin Walker, M.D., Evansville, Indiana; Vice-president, Hugh T. Patrick, M.D., Chicago; Secretary, Henry E. Tuley, M.D., Louisville; Treasurer, Thos. H. Stuckey, M.D., Louisville.

PROFESSOR ADOLPH LAURENZ, Professor of Orthopedic Surgery in the University of Vienna, recently successfully operated on the daughter of J. Ogden Armour, of Chicago, for congenital dislocation of the hip. It is said by some that his fee was $75,000, by others, double this amount. The notoriety and reputation achieved by this distinguished specialist from his trip to America should prove even more renumerative to him in the future. We wonder, however, where the able talent of New York and Chicago were, that they should have been overlooked in this instance.

A MONUMENT TO SCIENTIFIC PROGRESS.—The endowment of scientific research is nowhere so generous as in America, and the vast sums expended in the encouragement of medical investigation are generously contributed in the effort to attain exactness in therapeutics and to thus assuage the ills of mankind. But experimental medicine is not advanced alone by public endowment, for some of the modern pharmaceutical houses have added no little to our present day knowledge of therapeutics by the liberal sums that they have expended for the equipment of experimental laboratories. The most notable recent example of this is the magnificent research laboratory of Messrs. Parke, Davis & Company, of Detroit, which is now rapidly approaching completion. This is the largest and most perfectly appointed laboratory of its kind in the United States, and represents an investment of nearly two hundred thousand ($200,000) dollars. The building is complete in every detail, and the facilities for research work and development in the

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biological line are unparalleled. This laboratory will be one of the chief features of the splendid equipment of this exceedingly progressive house, and no medical visitor to the beautiful "Strait City" should fail to avail himself of the opportunity to inspect this laboratory which so nearly approaches the ideal.

SOCIETY PROCEEDINGS.

MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY.

Regular meeting, Tuesday evening, October 7, 1902.

The President, Dr. Alfred Moore, in the chair. Present, Drs. Alfred Moore, Barton, Black, Bell, Battle Malone, Castles, Kane, Rudisill, Raymond, Wadlington, Van Meter, Venn, Reilly, G. B. Malone, Porter, Frank Jones, Michie, Moore Moore, Burns, Ellett, McKinney, Krauss, Morrow, Anderson, Jelks, Goltman, Ham, and others.

Visitors—Drs. Cummings Harris, Baldwin, McElroy, and others.

Program: "*Quinin in Malaria*,"—Dr. J. B. McElroy, of Stovall, Miss., President of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee (see p. 561).

To open discussion, Dr. Wm. Krauss.

Formalin in Surgery—Dr. J. L. Jelks.

To open discussion, Dr. G A. Warren, Imboden, Ark.

DISCUSSION OF DR. McELROY'S PAPER.

Dr. Krauss: It is a pleasure to hear such a brilliant paper. Discussion of such a paper requires careful study of the original manuscript. Quinin is a plasmodicide and nothing else, and only in large doses, doses too large to constantly exhibit for the prevention of malaria. Small doses stimulate the malarial organism and do harm. For this reason the prevention of malaria by quinin is inexpedient except for very short stays in a malarial climate. I prefer the hypodermatic method, all things being equal. Its effect is rapid and with the proper precautions there is no local reaction.

I was most interested in the studies on hemolysis in malarial hemoglobinuria by the author. Several years ago, I

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advanced the idea that the precipitation of an attack of hemoglobinuria was due to the disturbance of a symbiosis between the human host and the malarial parasite. Quinin most frequently is the disturbing cause, and as the malaria is then always sabacute, if a factor at all, it should not be exhibited. It does great harm in most cases.

Dr. Frank Jones: We are glad indeed to have Dr. McElroy with us. He knows as much about malaria from a clinical and a laboratory standpoint as any man in the South. I can add nothing to what he has so forcibly said, nor take anything from his valuable paper. He is doing such work as deserves to be done in the South on the great subject of malaria. Two points I wish to emphasize of what the doctor has said. First, with reference to the administration of morphin hypodermatically in malarial hemoglobinuria. For several years for some reason, there has been a school opposing the use of morphin or opiates in this condition, but I can see no bad results; only good ones, when the patient is restless in the nauseous aggravation, when he is so that he is exhausted for want of rest. Your patient has already been thoroughly purged. The liver, kidneys and skin have been attended to, elimination has been established, therefore a small amount of morphin given hypodermatically cannot check the good work that has been established. In those cases where the nausea is pronounced, where nervous symptoms are manifest, where the patient is anxious or solicitous, we have no better agent than morphin or strychnin, given hypodermatically according to indications. I wish now to speak with reference to quinin given hypodermatically. I was surprised several months since in this society to hear a great many of our leading physicians in Memphis condemn the use of quinin in malaria, given hypodermatically. The objections urged were that they produced abscesses—slough. I have repeatedly seen cases where quinin given by the mouth passed through the system not absorbed, nor touched by the secretions. In such cases as these there is but one way to administer quinin, and that is hypodermatically. In my practice in Mississippi, I invariably gave quinin hypodermatically. I have never yet had an abscess to follow. I am inclined to think that when

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abscesses do occur, there is some fault in the technique. It is needless for me to reiterate my opposition as to quinin in hematuria. I gave my reasons in a paper read before the Mississippi State Medical Association in 1890. I am gratified that Dr. McElroy takes such a firm stand against quinin in hematuria. The reasons for its nonadministration are clear and conclusive.

Dr. G. B. Malone: I wish to say that I heartily agree with the author of the paper. It is well written and tersely expressed. In regard to the time of administering quinin in chills, I think the remedy should be commenced at the earliest opportunity, even while the chill is on. As to use of morphin in malarial hematuria, I recommended it in a lecture delivered before the class of the Memphis Hospital Medical College in 1881, more than twenty years ago, but I must say that it is a remedy that should be administered with caution. In one form of the disease it is essential, that is, in the rigor form; in the other forms it is not essential and should seldom be used. Now as to quinin in malarial hematuria, I announced in this lecture my unalterable opposition to its use, and I am still of the same opinion. While it may not produce the disease in every case, it does seem to in some, and has afterward caused a return of the hematuria in cases relieved with other remedies. I would allow no physician to prescribe for me in this disease who would suggest quinin.

Dr. Wm. Britt Burns: I am greatly pleased to have heard this very valuable paper of my friend, Dr. McElroy. It is a contribution worthy of our deepest consideration and study, and one that will, I am sure, stimulate others of us to better and more substantial work.

I do not believe that I am entirely in accord with the deductions made by the doctor on the question of prophylaxis. I have always taken the position that, where there is any necessity for prophylactic measures at all, in an intensely malarial region, there will be found a latent malaria in a large percentage of the inhabitants. Segmentation goes on daily—that is to say, sporulation occurs—and in twenty-four, forty-eight or seventy-two hours, as the case may be, more red cells are infected, consumed and destroyed; a full-grown

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body is formed and again divides, and soon. This cell action goes on repeatedly, but by the phagocytic activity or immunizing power of the blood, a paludal explosion or chill is precluded. These conditions, with those of splenomegalia and yellow parchment skin, are those which call for the real prophylactic use of quinin. It will not prevent mosquitoes from biting, consequently will not prevent the inoculation of malaria. I have seen excessively large spleens rapidly disappear upon the administration of quinin alone.

I have been in the habit of using the neutral hydrochlorate for a number of years, for the reasons, (1) that it contains more of the alkaloid than any of the single salts; (2) that it is more soluble than the others, being soluble in less than its bulk of hot water. I have preferred not to use the basic salts, because they are less soluble, not so readily taken by the stomach, and, when used under the skin (intramuscularly), are liable to precipitation by the alkaline tissues. I took the pains some years ago to communicate with Messrs. Powers & Weightman upon the subject, and they wrote me that all of their hydrochlorate salts of quinin are neutral salts.

For hypodermatic use, I prefer the dihydrochlorate or the neutral hydrochlorate. I have often used the bisulphate for this purpose. Thorough aseptic precautions are observed, and the solution is put deeply into the gluteal region, at as high a temperature as the tissues will stand. As quoted by the essayist, I have not had an abscess or a chemical slough in years. I have thought that the large percentage of sloughs reported by the army in soldiers returning from the tropics is largely due to the greatly depreciated physical condition of the soldiers thus returning.

Administration by rectum has always been unsatisfactory. I have never been able to get anything like satisfactory results by rectal medication or alimentation.

As to quinin in hemoglobinuria, my position, I believe, is pretty well defined on this point. I see no reason to change my mind. I do not believe that quinin produces the hemolysis; we are led to believe it does. I doubt if it ever produces hemoglobinuria; I am sure that it positively is indicated in a large percentage of the cases; I use it. The last

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nine cases I have treated have been given quinin hypodermatically, with six recoveries. The first of the three fatal cases was not given quinin until the third hemoglobinuric paroxysm; the second died in seven and one-half hours, with a temperature of 107½°F. from the beginning of his first hemoglobinuric paroxysm, and one-half of all the corpuscles in the body were destroyed and some multiply infected; the third showed a blood destruction of one-half, and died of suppression.

Reverting to the question of quinin as a therapeutic test, I beg leave to read an editorial abstract of what Manson has to say on the subject:

"It is taught and believed by medical practitioners that one specific in the hands of the profession is quinin in malaria; yet, as the writer states, but few have the courage of their convictions. Cases are believed to be malarial, and quinin administered for some days without effect upon the temperature, yet the treatment is persisted in. Manson states that a periodic or remittent fever that persists after full doses of quinin, for at least two days, is not malaria. In this climate we see many cases of typhoid fever which, in the incipiency, resemble malaria, and as most physicians are loth to make a diagnosis of typhoid until forced to do so, they give quinin with the hope that it is malaria. Under Manson's advice the treatment should not be persisted in beyond three or four days, if the remedy is given in suitable doses and the quinin is absorbed. The diagnostic dose—if that term can be used—is given as ten grains every four hours (three times a day) for three days. If the case is not relieved it is not malarial. Should the remedy remain unabsorbed, evidenced by vomiting and catarrhal symptoms referable to the stomach, resort can be had to the hypodermatic injection of the bisulphate into the muscles."

This has practically been my position for several years.

Dr. M. Goltman: I am sorry I did not hear the entire paper of Dr. McElroy. What I did hear impressed me to the extent that I sincerely wish I had heard it all. It is a paper full of meaning and one impossible for the average intelligence to grasp just by hearing it read. I want to study the paper at

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my leisure, and feel that I will then better understand its value. I am in hearty accord with the essayist regarding the hypodermatic administration of quinin. Dr. Bell and others can attest the fact that I have given it in this manner times too numerous to mention with the most marked effect. In one or two instances sloughs have occurred, but it was unquestionably due to faulty technique. If injected into the layers of the skin a slough will surely form. Select a site rich in cellular tissue and inject deeply into this tissue and masser the part thoroughly, and if strict precautions as to surgical cleanliness have been practiced, there will be no sloughing.

I have used it intravenously, well diluted with normal salt solution with the happiest results. I have a patient suffering with hemoglobinuria right now. Dr. Krauss will tell you he is progressing favorably and without quinin. The leucocytes show considerable pigmentation,but there is no active malaria. When there is real hemorrhage from the kidneys following regular malarial paroxysms, with definite intervals and active organisms present in the blood, quinin is indicated, and if properly given will effect a cure. This kidney condition is the analogue of malarial hematemesis. Quinin, however, has no place in the therapy of malarial hemoglobinuria. This is positive. Regarding morphia, I must say that it is one of the drugs to tie to in this condition. I know fully what is said against it, but it does great work and often saves life in this condition, nevertheless. We are certainly indebted to Dr. McElroy.

Drs. Riley, Venn and VanMeter also discussed the paper.

Dr. J. B. McElroy, closing: I do not think the presence of fever is any contra-indication to the administration of quinin. In estivo-autumnal infections, especially, the administration should be commenced as soon as the diagnosis is made.

I usually precede or accompany the quinin with a purgative. These, however, should not be given together, as the increased peristalsis hurries the quinin into the alkaline contents of the intestines where absorption is greatly retarded.

Now, a word more as to quinin in hemoglobinuria. In cases of continuous hemoglobinuria, such as we most frequently meet with, I do not think that quinin is indicated.

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Bastianelli's rule has been considered a good one—when parasites are present quinin should be administered; when absent it should be withheld. This, I do not now feel inclined to accept. In a large majority of the cases of my series no parasites were present. This is in accord with the experience of Stephens and Christopher and of almost all observers who have studied the blood in this condition. These gentlemen think that the absence of the parasites may be accounted for by the usual administration of quinin before the attack. This is true, but I have seen the parasites disappear in cases which had no quinin previously. A case of double (spring) tertian, which had no quinin previously, developed hemoglobinuria which lasted about thirty hours. No antiperiodic was administered during attack. The parasites and fever disappeared after the sporulation of the second group of parasites. Here is a spread from the case in the practice of Dr. Gray (exhibiting). It contains estivo-autumnal parasites, spread taken about four hours after onset of black water. No antiperiodics were administered. Black water and fever subsided after about thirty hours.

Following Bastianelli's rule in two of my cases in which parasites were present, the administration of quinin was followed by a distinct exacerbation in the symptoms.

In closing, I must again express to you my appreciation of the honor you have conferred upon me in inviting me to address you, and thank you for the kind consideration which you have accorded my paper.

Owing to the late hour after the discussion of Dr. McElroy's paper, Dr. Jelks made a request of the president to allow him to postpone the reading of his paper to a later meeting, which was granted.

Dr. Ellett reported *A Case of Papilloma of Nasal Septum*, showing section of specimen removed, stating that Dr. Richmond McKinney had reported a similar case in the *New York Medical Journal* about three years ago, this being at the time about the fourteenth case on record.

Discussed by Dr. McKinney.

In the absence of Dr. J. L. Andrews, Dr. Barton made

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report of credential committee, reporting favorably upon the name of Dr. Cummings Harris, who was unanimously elected.

Dr. Burns made report of special committee appointed at last meeting to revise constitution and by-laws.

Dr. Jelks moved that the Memphis and Shelby County Medical Society invite the Mississippi Valley Medical Association to hold its next annual meeting here in October, 1902.

Discussed by Drs. Frank Jones, McKinney, Ellett and Burns. Carried.

Regular meeting, Tuesday evening, October 2, 1902.

The President, Dr. Alfred Moore, in the chair. Present were Drs. Barton, Battle Malone, Burns, Bell, A. B. Williams, Morrow, Black, Hall, Harris, Van Horn, Smythe, Frank Jones, Michie, Ellett, Rudisill, Turner, Ham, and McCown.

Visitors—Dr. J. L. McGehee and Dr. W. P. Yerger.

The minutes of the last meeting were read and approved.

Dr. Burns presented an interesting case of lichen planus, and it was discussed by Drs. Battle Malone and Smythe.

Dr. Barton read the names of J. L. McGehee and W. H. Baldwin as applicants for membership.

Dr. Burns, chairman of the committee appointed to revise the constitution and by-laws so as to conform to the new constitution and by-laws suggested by the American Medical Association, presented the report, which was adopted after some discussion.

BOOK REVIEWS.

THE DISEASES OF INFANCY AND CHILDHOOD, By L. Emmett Holt, A.M., M.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University); Consulting Physician to the New York Infant Asylum, and to the Hospital for Ruptured and Crippled. Second edition, revised and enlarged, with 225 illustrations, including nine colored plates. Sold only by subscription. Prices, cloth, $6.00; half leather, $6.50. D. Appleton & Co., 436 Fifth Avenue, New York.

It is with genuine pleasure that we welcome the second edition of Holt's monumental work on the diseases of infancy and childhood. There is no contribution to the literature of this subject, be it foreign or domestic, which has done more toward placing this study on the plane of scientific accuracy.

It is the outcome of twenty odd years of experience in private and hospital practice to which this book may be ascribed, and the inherent capability of the

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author is emphasized on every page of the book. In a clear and simple style, Dr. Holt has consecutively considered the various diseased conditions to which the child may fall a victim, and presents a thorough exposition of every feature of the diagnosis and care of these cases that the practitioner may desire enlightenment upon. Special attention is paid to the diseases of the newly born child, nutrition, its derangements and diseases, the acute diseases of the lungs and intestinal tract, and the specific infectious diseases. To this last section more than two hundred pages have been devoted, fifty of these being accorded the subject of diphtheria. Splendid illustrations, beautiful printing, and otherwise complete to the extreme of thoroughness, this work will continue to add to its host of friends in the profession.

A TEXT-BOOK ON DISEASES OF INFANCY AND CHILDHOOD. For the use of Students and Practitioners. By Henry Koplik, M.D., Attending Pediatrist to Mt. Sinai Hospital, New York; ex-President of American Pediatric Society, etc. Octavo, 675 pages, 169 engravings and 30 plates in colors and monochrome. Cloth, $5.00, net; leather, $6.00, net.

Since the name of Koplik is already more than well known for his contributions to the development of the study of the diseases of infancy and childhood, a text-book devoted to this subject from his pen will meet with a cordial welcome from the medical profession, and this welcome will be deserved, for in this book he has added to the supply of text-books on this subject a work that will not find oblivion on account of its lack of originality.

The author has availed himself of the luxuriant production of pediatric literature existing on both sides of the Atlantic in various languages, and has gathered and unified the world's best practice in a systematic and condensed volume. But in doing this, he does not lose his individuality, but inspires the reader with his own valuable experience and careful judgment in a comparison of the value of the work of other pediatrists.

Koplik has given exhaustive consideration to the methods of examination and physical diagnosis, the subject of infant feeding, the chapters on diseases of the lungs, stomach, intestines and heart. Every other detail connected with this field has similarly received full and attractive treatment, and the volume throughout maintains a clinical and practical tone. Illustrations abound.

We shall look to see Koplik's work attain importance among text-books on pediatrics.

A TEXT-BOOK OF HISTOLOGY. By Dr. Ladislaus Szymonowicz, Professor of Histology and Embryology in the University of Lemberg. Translated by John B. MacCallum, M.D., Johns Hopkins Medical School, Baltimore. Octavo, 437 pages, 277 illustrations, including 57 full-page plates in colors and monochrome. Cloth, $4.75, net. Lea Brothers & Co., Philadelphia and New York. 1902.

The development of the science of histology is due largely to the efforts of the Germans, for with their painstaking persistence they have succeeded in bringing out the minutiæ of the microscopic construction of tissues that could hardly have been attained by a less laborious nation of investigators.

Among histologists in Germany, Szymonowicz is preëminent, and his work on histology is a monument to his efforts. It is beautifully illustrated, and very clear in its descriptions of technique. In preparing the book for the needs of American students, Dr. MacCallum has added many desirable points, and has also further enriched its series of engravings and colored plates.

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ADDRESS.

MEDICINE AND SOME OF ITS TENDENCIES.*

BY J. B. McELROY, M.D.
STOVALL, MISS.

I WOULD be remiss in my duty and callous to an innate sense of gratitude if I did not embrace this opportunity to express my appreciation of the distinguished honor which you have conferred upon me. Under the guidance of your efficient secretary, the Tri-State Medical Association of Mississippi, Arkansas and Tennessee shines as a star of the first magnitude in the galaxy of medical societies. You have acquired a reputation far and near for the high character and thoroughness of your work, which you well merit. In expressing the hope that this meeting shall be no exception to your past record, I bespeak your hearty coöperation in my endeavor to discharge, in an impartial manner, the executive duties incumbent upon me.

The time allotted to these remarks would not permit me to even sketch an outline of the history of medicine. I think we can get no clearer and more beautiful view of it than to behold the picture which Baas presents. He says: "Medical science on the whole as regards its various phases and epochs of development, may be likened to a large picture, whose

* President's Address, delivered before the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Nineteenth Annual Meeting, Memphis, November 11–13, 1902.

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atmosphere, tinted by unmeasured distance, displays only a few clearer cloud forms in somewhat definite outlines and masses, while the limited background exhibits in perspective lofty temples, about whose portals wander priests in ample mantles to guard them from the entrance of the uncalled. On either side appear mighty crags and groups of lofty trees, whose foliage is penetrated by the powerful rays of the noonday sun, while the foreground greets us in undimmed brilliancy and instinct with life. To the distant sky, with its cloudy forms, we may compare the mythical era of medicine with its storied gods and demigods of punishment and healing. To the background, the cognate priestly era, with its sacerdotal physicians and theurgic medicine, and its works hallowed by faith. The middle ground may be likened to the union of the terrestrial and celestial philosophy with medicine, the philosophic period; and finally, the clear foreground, to the scientific period with its practical principles and ideas."

At the risk of marring this picture, I would erect in the foreground a temple of science, and incidentally note the influence of the thought of the time upon its construction. It is true, as Dr. Holmes says: "Medicine is as sensitive to outside influences, political, religious, philosophical, imaginative, as is the barometer to the changes of atmospheric density." So it was while Columbus and other adventurers were exploring unknown seas and opening new continents; while Copernicus was exploring the heavens and discovering the true system of the universe; while Martin Luther was breaking through old traditions leading men out into the freedom of truth; Andreas Vesalus, refusing to believe that the narrow trousers of his contemporaries could overcome the strong curvature of the thigh bones which Galen described, was securing and promulgating facts which are the pillars upon which our temple rests.

Harvey, catching the spirit of the Elizabethan period, gave to the world the first fruits of the reformation. The field of inductive-experimental physiology lay fallow for almost a century after Harvey. Not until after Newton had discovered the law of gravitation and had given to the world his Principia, did Haller, in Germany, lay the foundation of modern experimen-

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tal-physiology, and Morgagni, in Italy, that of pathological anatomy. The deductive-experimental spirit of this age also manifested itself in other lines, and Lavoiser, overthrowing the antiphlogistic theory of Stahl, with Black and others of the period founded chemistry.

Upon these pillars, our temple may be said to rest. To even mention the illustrious names who have culled from nature the material for its completion would be more than a task for the evening. Suffice it to say, under the influence of Laennec and Louis, of Skoda and Virchow, it stands today an imposing structure of scientific medicine.

In this age of materialistic tendencies,of improved technique, when the natural sciences have reached a degree of perfection until now undreamed of; when the experiments of Emil Fischer on fermentation and of Ehrlich on the toxins, antitoxins and lysins have all but unveiled the cell; when by the introduction of the methods of Vant. Hoff and Arrhenius, the researches of Loeb on artificial parthenogenesis and the effects of ions of various sorts on muscular and neural activity have all but revealed the secrets of cell life, we are apt to forget or at least minimize the truth that medicine is first of all an art whose object is the relief and cure of the ills of suffering humanity. The thoughtful mind cannot fail to be reminded of Emil Kratzman's observation on the French school of pathological anatomy. Speaking of which he said: "In France everyone experiments with the sick, less to attain the best method of cure than to enrich science with an interesting discovery and to advance the accuracy of diagnosis by some new physical sign." In the same connection, we recall the response of the illustrious Skoda when in consultation upon one occasion, he was asked about the medicine to be prescribed, he replied, "*Ach, das ist ja alles eins.*"

The next tendency which I would call your attention to is specialism in medicine. With the vast acquisitions of medical knowledge today,it is not surprising that we encounter such statements as the following: "It is necessary that there should be some election in schools of medicine." It is no doubt true that "special knowledge on special subjects, founded on broad general knowledge," is demanded. But especial emphasis

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should be laid upon the latter clause. The history of medicine demonstrates the truth of Baas' statement that: "Specialism is *per se* an evidence of a civilization, of high development, indeed of one tending toward its downfall." And the observation of Henderson that there is danger, in our large cities, of running specialism to seed, is pertinent. This tendency, culminating in quackery and charlatanism, has scarcely been more manifest in any period of medical history than it is at the present time.

Another tendency is the disposition to magnify laboratory methods at the expense of clinical observation in diagnosis. The exactness and fascination of laboratory work conduce to this. An examination of the blood or the Widal reaction is first thought of in the diagnosis of malaria, anemia, or typhoid fever. The modern man prefers to send a culture to the city board of health to demonstrate the Klebs-Loeffler bacillus to observing the clinical course and symptoms of diphtheria. Even though he should find impaired motion, increased tactile fremitus, dullness and bronchial breathing in the chest of a patient with fever, he reserves his diagnosis until the pneumococcus or the tubercle bacillus is found in the sputa, or a blood culture shows the typhoid bacillus. He is apt to lay as much stress upon the presence of a leucocytosis or iodiphilia as a history of pain, fever, nausea and vomiting, tenderness at McBurney's point, and a rigid rectus, in the diagnosis of appendicitis.

Again, especially in our country, the birthplace of anesthesia, where aseptic technique has reached its perfection, the tendency to indiscriminate operations is possibly too great. The modern surgeon does not hesitate to make an exploratory incision to clear up his diagnosis. He makes an abdominal section to correct some trivial displacement of the uterus, and while in the abdominal cavity removes the normal appendix, because, forsooth, it may in the future offend. He is becoming more reconciled to leaving the ovaries under similar circumstances. He embraces the opportunity to do a resection, an anastomosis, or some of the 'ostimies for malignant disease of the alimentary tract.

In noting these tendencies, I would not have you believe

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me iconoclastic or out of harmony with the spirit of progress of the age. I welcome with pride the wonderful achievements which we may confidently expect from the Carnegie Institute just now starting under such favorable auspices. To many of us who will not be able to enjoy its privileges, I would say, do not forget that in our daily rounds the wide laboratory of nature invites us to enter her sacred precincts. And lest we despond because we are surrounded by unfavorable environment, I would ask you to remember that it was by the close observation of her laws and the use of such methods as were at hand that Darwin, Huxley and Koch have written their names high in the hall of fame.

I would not underestimate the value of our specialists, but would have them realize that they are practitioners of medicine in the broad sense which always has to do with the whole man. Indeed it seems that our most successful specialists are those who have first had the broadest experience in general practice.

I would be the last to minimize the value of laboratory methods in ferreting out the hidden processes of disease. Not long ago I heard one of our most distinguished practitioners read a paper on diagnosis. He cited the case of a bottle-fed infant. After studying the case in vain for a week, it at last dawned upon him as if by inspiration that the baby was suffering from lead poisoning, which subsequent investigation proved to be correct. In this case a blood examination, showing basophilic degeneration of the erythrocyte would have offered a more certain clue. If there are any who feel that they have gotten along thus far well enough without these methods, and that it is now too late to acquire them, I would point them to old Anthony Van Leeuwenhoek, who after thirty-nine years as chamberlain to the sheriff, with his own hands made the lens with which his octogenarian eyes discovered the capillary circulation. In placing a due estimate upon these valuable methods, I would have us all remember that we may learn much from the family history, the previous medical history, the clinical history, and the facts derived from clinical observation.

I would make no tirade against justifiable surgery, which has

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accomplished such great things for the relief of suffering humanity. The greatness of the surgeon is measured as much by his ability to know when not to operate, as by his skill in operating. To those who in their zeal to relieve suffering and save life—let us hope not to establish their prowess as operators—I would commend the timely article on surgical tendencies by Dr. Reginald Fitz in the *Medical News*, Dec. 28, 1901.

After all, whatever branch of medicine may claim our efforts, let us not forget that the crowning glory of scientific medicine is the art of healing. When we have exercised our best efforts and availed ourselves of the best methods to find the truth, we will realize that "as long as man struggles he errs." I have read somewhere of one who seeking in vain for the truth had wandered into a desert to give up the search. There he met a wise man to whom he told his struggles and his failures. The wise man replied:

"You deemed you needed nothing more
Than skill and courage to explore
Deep down enough into your own heart
To where the well head lay apart:
But thanks to heaven it is not so,
That stream a richer source doth know—
From God it comes, to God returns,
Not nourished from our scanty urns,
But from His unfailing river which runs
and will run on forever."

ORIGINAL ARTICLES.

OPHTHALMIA NEONATORUM, OR INFANTILE CONJUNCTIVITIS.*

BY W. T. MICHIE, M.D.
MEMPHIS.

THIS is an inflammation of the conjunctiva characterized in its usual form by great swelling of the lids, serous infiltration of the bulbar conjunctiva, and the free secretion of contagious pus.

Etiology. It is caused by the introduction into the eye of some infecting material from a portion of the genito-urinary tract of the mother at the time of, or shortly after the birth

*Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 11, 1902

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of the affected infant. The gonococcus of Neisser is present in the majority of cases, although Cohn and other systematic writers have described two types—one supplied with the microörganism, exhibiting the tendency to increase in severity and invade the cornea, and a milder non-specific variety with a tendency to recover. Hence a virulent vaginal discharge is not necessary to produce this condition except in its intense degree, and it probably arises from the contamination of any muco-purulent discharge during birth. After birth the child may become infected by the careless use of soiled towels, and care, according to Olshausen, during the post-puerperium is most necessary, requiring on the part of the accoucheur and nurse sedulous application of the proper means to prevent contamination. Santos-Fernandez believes that many cases of simple catarrhal conjunctivitis among the ignorant classes are transformed into the purulent type by being treated with some of the dirty, disgusting lotions which are held in high esteem as household remedies. In some cases streptococci, staphylococci, Loefler's bacilli, Koch-Week's bacilli, etc., have been found with the gonococci. Exceptionally inoculation occurs *in utero*.

Symptomatology. Valude divides ophthalmia neonatorum into three varieties: 1. Atypical, grave purulent form, appearing on the third day after birth—the true blenorrhea neonatorum. 2. A benign catarrhal form, which may appear sooner without a fixed time. 3. A chronically-inclined persistent variety ordinarily seen in weakly or premature infants, either primary or occurring secondary to the blenorrhea—the follicular catarrh of classic writers. It is divided into four stages (Mules). The first stage, or that of incubation, lasts about fifty hours, the fully-formed disease beginning on the third day after birth, sometimes as early as twelve to forty-eight hours after inoculation, or again when it is the result of secondary infection from soiled fingers, sponges or cloths, at a much later date. During this time a slight redness of the conjunctiva, with a trifling discharge in the corner of the eyes and some feeling of heat and pricking are the only symptoms. The second stage, or lymph-secreting period, is characterized by the appearance of a free secretion, somewhat sticky, with

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congestion of the palpebral conjunctiva, associated with edema and swelling of the lids. The third stage rapidly succeeds the second and consists of an aggravation of the previous symptoms. There are great, cushion-like swelling of the lids, intense chemosis and congestion of the conjunctiva, accompanied by great pain and discharge; the surface of the swollen lid is hot, dusky red and tense; the upper lid overhangs the lower, and at first can be everted only with difficulty. The discharge has now assumed a yellow or greenish-yellow color, and is secreted in great quantities. The conjunctiva is swollen, red and velvety, and that upon the eyeball intensely injected. Flakes of lymph appear, the conjunctiva grows rougher, spots of dark red color and ecchymosis are apparent; the whole tissue is succulent and bleeds easily; the chemosis of the ocular conjunctiva forms a hard ring around the margin of the cornea. At the bottom of the crater-like pit thus produced, this membrane is seen; the thick creamy-like discharge increases, flows from beneath the overhanging lid, or is packed up in the conjunctival cul-de-sac. The fourth stage, or the period of recession, is characterized by a gradual declining of the previous symptoms. The lids become less tense, the discharge diminishes, the conjunctiva is puckered into folds, and the papillæ into elevations, and in from six to eight weeks the inflammation subsides, leaving the surface of the lids in a granular condition from the hypertrophy of the conjunctival papillæ. These stages rapidly slide one into the other, so that it may be difficult to follow them this way. Of course if the cornea becomes affected the above symptoms will be intensified.

Diagnosis. The onset and character of the disease, its symptoms and course, render a mistake in regard to its nature practically impossible; close attention, however, should be given to what at first appears to be a trivial inflammation of the eyes of a newborn child, because a virulent and destructive inflammation may follow with great rapidity. Recourse to the microscope in the diagnosis of this disease has not, unfortunately, become the general rule. Pleas for its use have been made by such men as H. Knapp,* who speaks of two cases; both were atypical and obscure. In the one the eyes

*Ophthalmic Record, March, 1898.

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were lost, when they might have been saved, Knapp thinks, had a bacteriological examination been made at the first visit. In the other, the bacteriological test relieved the parent from an unjust suspicion awakened by the appearance of the eyes, and the subsequent course of the case to recovery confirmed the findings of the microscope. Dr. A. B. Kibbee* recites a case in which the parents were relieved of a fear excited by a simple conjunctivitis; a second in which a suit for malpractice was prevented by the parents knowing that they would be confronted by a bacteriological exhibit showing the real character of the disease. In the ophthalmia of the newborn, while the microscopic examination of the discharge proves that the great majority of cases, including those which are typical and severe, are due to the gonococcus, it is found however that cases occur which are not of this nature, and that nothing but bacteriological examinations can be relied upon to discriminate between the two. Allen Greenwood† in three cases found the gonococcus in each; but Groenouw§ reported that among 40 cases studied by him the gonococcus was found in but 14, and in pure culture but once, and these 14 included the more typical cases. Leber (Heidelberg) says that although mixed infections occur, the gonococcus is the essential cause of blenorrhea neonatorum. Schmidt-Rimpler maintains that the disease could occur without the gonococci. There are cases, however, in which a positive diagnosis cannot be based upon the clinical features alone, so the safe course is to treat the case as due to the gonococcus; but speak of it as having such a cause only when the organism has been identified by bacteriological examination. R. Greef|| noted that ulcus cornea appeared only where the gonococcus was found.

Prognosis. It is extremely grave where the gonococcus is present, destruction of the cornea being of frequent occurrence (and according to R. Greef the rule); when this destruction is not complete, however, the ultimate result as regards vision is far better than would seem possible during the height of the

* Archives of Ophthalmology, July, 1898.
† Ophthalmic Record, March, 1898.
§ Heidelberg Ophthalmic Congress, 1898.
|| Berlin et Klinische Wochen., 1900.

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inflammation, the portions of the cornea not destroyed clearing up in a surprising manner. The disease runs a tedious course, and even when the cornea escapes, the conjunctival inflammation may not disappear entirely for two or three months.

Prophylactic Treatment. According to Horner, the first attempt at prophylaxis was made by Bischoff,* of Basel, who employed washing out the vagina before birth with injections of carbolic acid and the eyes of the newborn with salicylic acid, and in 1876 Schiess used instillations of carbolic acid and thymol; other clinicians, as Olshausen, Briese, Abegg, in a similar manner sometimes used simple water, endeavoring thus to thwart the evil. Credé (of Leipsic), made his first trials in 1879 with borax 1:60, but in June, 1880, he began with a 2 per cent. solution of nitrate of silver. Previous to the nitrate of silver treatment, among 2266 births, ophthalmia occurred in 10 per cent; after the introduction of that method, from June, 1880, to March, 1883, among 1160 cases of labor there was only 0.31 per cent. of ophthalmia. In 1881 Olshausen proposed to substitute for nitrate of silver a 1 per cent. solution of carbolic acid; in 1882 Dewecker recommended bathing the eyes with boric acid, 4:100, or carbolic acic 2:100. Fuchs compares them as follows: In 1092 infants with no treatment there was 20 per cent.; with 1 per cent. carbolic acid, 10 per cent.; with 4:100 boric acid, 12 per cent.; with 2 per cent. nitrate of silver, 5 per cent. 1:1000 bichloride of mercury was used in the obstetrical clinic in Berlin, but the result was not as good as by the Credé method.

Too much attention cannot be paid to this subject, for, according to Professor Magnus, of Breslau, investigations made in Europe, and in Germany in particular, have demonstrated that 71.99 per cent. of all who become blind during the first year of life are rendered sightless by purulent ophthalmia; in other words he has shown that of every 10,000 children under 5 years of age, 428 are blinded by this type of conjunctivitis. The proportion of blind from this cause in the asylums of Switzerland is 26 per cent.; in Spain and Belgium 12 per cent., and the United Kingdom 30 per cent. Riviere,

* Handbuch der Kinderkrankeit, 1883.

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of Bordeau, declares that purulent ophthalmia alone is responsible for nearly one-third of the cases of blindness, and has placed in the care of Europe well nigh 100,000 victims. More than 32 per cent. in our own country owe their affliction to this dreadful disease, and Howe, of Buffalo, in a collection of 8759 cases of labor conducted without preventive methods, found 10 per cent. of blenorrheas.

In the face of these facts, the means to prevent this disease rank in importance with those employed against smallpox and tuberculosis, and demand the assiduous practice of the means which experience has taught to be effective. The day ought not to be very far distant when stringent legislative regulations will be enforced to militate against this appalling cause of blindness; this has already been urged upon England. N. Becker, of Russia, recommends that the method of Credé as well as vaccination shall be obligatory. In the absence of distinct governmental interference it is the plain duty of physicians, nurses and directors of public charities to instill among the poorer classes a knowledge of the dangers of the disease and the necessity of prompt treatment.

Wilson calls attention to the following necessary points: 1, The antepartum care of the birth canal. 2. Scrupulous cleansing of the lids following the expulsion of the head and constantly thereafter in suspicious cases. 3. The non-invasion of the palpebral sac by the separation of the lids before the appearance of the typical discharge. 4. Prompt and absolute isolation if the appearance of conclusive signs of specific inflammation are corroborated by the microscope. 5. Always burn immediately everything that comes in contact with the ophthalmic discharge. 6. Keep the light in the lying-in chamber very low. 7. Systematic and thorough irrigation. 8. Systematic treatment of a debilitated child. 9. Always use either the Credé or Hagar-Kahrn method.

The Credé is thus carried out: instill two drops of a 2 per cent. solution of nitrate of silverin to the eyes of a newborn child, which, as soon as it is expelled from the maternal passages, and before the cord is cut, is placed upon its back in bed, the eyelids parted and the drug introduced; this is in some instances repeated on the second day; in the meantime

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compresses soaked in a solution of salicylic acid are laid upon the closed lids.

The Hagar-Kahrn is thus conducted: A convenient vessel containing small pledgets of antiseptic cotton moistened with Van Sweeten's solution—bichloride of mercury 1 part, alcohol 100 parts, water 900 parts. This receptacle is placed within easy reach of the accoucheur, who supports the perineum with one hand, the other remaining free to take up the moistened pledgets. As soon as the head of the child is born, the closed lids are carefully dried with two or three portions of the prepared cotton; when the child is entirely expelled it is placed upon its back in bed, and before the cord is tied the lids and all the tissues surrounding them, especially the angles of the eyes, the root of the nose and the eyebrows, are carefully cleansed with the same solution until an absolutely antiseptic surface is obtained. During this whole procedure care is taken that the child does not put its hands to its eyes before they have been thoroughly cleansed in the solution. Opinions differ as to which of these methods is the better, but all things considered it is evident that the Credé is the chosen one.

Medical Treatment. During the first stage apply a weak solution of boric acid and wash the secretion away carefully. In the second stage, in addition to local cleanliness the local application of cold, thus applied: On a block of ice square compresses of absorbent lint are laid, which in turn are placed upon the lids, and as frequently changed as may be needed to keep up a uniform cold impression. If corneal complications exist, use hot applications, for Kriess † has shown that the gonococcus develops only at a temperature of 90-92°F. Weeks ‡ finds that the temperature of the conjunctival sac in the various degrees of inflammation ranges from 98–102°F., and also finds that by constant cold applications the temperature of the conjunctival sac may be reduced to 88 or 92°F., accordingly as the lids are little or much swollen; the temperature of the surface of the lids is kept at about 40°F. As soon as the discharge becomes abundant, especially when its character is creamy, it should be removed every half hour for at least

† Wiener Med. Wochen., 1885.
‡ Medical Record, 1886.

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twenty-four hours day and night with a Davidson syringe (some prefer a fountain), using a 1 per cent. solution of boric acid to a quart of warm water, and the time should be lengthened as the secretion decreases. Some authors claim that bichloride of mercury, one grain to a pint of warm water, is the best; but bacteria, according to Andrews, in the presence of albumin have the power to reduce it to calomel, thus nullifying its antiseptic properties. A 2 per cent. solution of nitrate of silver daily or twice daily is applied to the everted lids on a cotton applicator, and its excess is neutralized by a solution of common salt. This is the remedy generally used —but the following, which is Theobald's, is in my experience better: a 10-100 or 20-100 solution of protargol is dropped into the eyes three times a day, and a 40-100 solution is applied to the everted lids every other day. Of course if the lids are too hard to evert and there is any corneal complication, the nitrate of silver is contra-indicated. Not so with protargol. Protargol does not undergo chemical changes nor decomposition and is neither caustic nor irritating, is easy of application and safe, readily penetrates but does not stain the mucous membrane nor scar the tissues (Hier). If corneal complications exist, use a 1-4 to 1-2 per cent. solution of atropin, either as a salve or dropped into the eyes two or three times daily; if a marginal ulcer, bringing with it danger of perforation, it is best treated with eserine sulphate, one-sixth to one-half grain to the ounce (Dewecker). An excellent rule is to employ atropin every three or four hours during the day, and when the vitality of the cornea is threatened or the surface of the cornea is covered with a gray film, use hot applications (Fuchs).

I wish to call your especial attention to argyrol, which has been used very extensively in the East, and the result in the case in which I used it was much better and it cured quicker than either nitrate of silver or protargol. The solution (20 per cent.) should be dropped in all parts of the conjunctival sac every three or four hours, and a 40 per cent. solution applied every other day to the everted lids. Other solutions are chlorine water (Schmidt-Rimpler), potassium permanganate, a mild solution of formalin (Wolfberg), this author generally adding a little borax and common salt and irrigating every fifteen minutes as

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long as there is any secretion. Hydrogen dioxide, carbolic acid, ½ to 5 per cent., iodoform ointment (4 per cent.) have their advocates. Protect the other eye, if only one is affected (very rare).

Lenow Building.

THREE MONTHS OFFICE EXPERIENCE IN THE TREATMENT OF CHRONIC DYSENTERY.*

BY JOHN L. JELKS, M.D.
MEMPHIS.
Surgeon in Pelvic Diseases to the Shelby County Poor and Insane Asylum; Surgeon to the Old Men's Home; Fellow of American Proctologic Society.

DYSENTERY was one of the best known and perhaps best understood diseases of antiquity. The gravity of the disease also has always been such, and is today, that this subject is rendered too broad to confine one's remarks to a brief thesis merely, but there are a few facts and ideas to which especially I desire to call attention. A brief retrospect of the history of the disease would not be amiss here, therefore I quote Dr. W. W. Johnson, who, in the *Reference Hand-Book of Medical Sciences*, says:

"It was well known before the time of Hippocrates, 430 B. C., but this writer was the first to give an accurate description of its symptoms. He clearly differentiates it from diarrhea, as the following extract from his works show: 'But when the body being heated, acrid matters are discharged, the intestine is excoriated, ulcerated and the stools are bloody, this is dysentery, a grave and dangerous disease,' etc. From the time of Hippocrates to that of Celsus, 25 B. C. to 45 A. D., the contention of schools and theorists did but little to advance medical knowledge, but the writings of the 'Medical Cicero,' as Celsus has been called, may be said to epitomize the learning and practice of his predecessors, and that the chief features of dysentery were then understood. Aretaeus (50 A. D.) recognized without doubt by actual observation that the ulcer was the peculiar and dangerous lesion of the intestine in dysentery. A century later Galen (164 A. D.) said that physicians

* Read before the Mississippi Valley Medical Association, Kansas City, Mo., October 17, 1902.

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of his time limited the term dysentery to cases of intestinal ulceration. Alexander, of Trallus (575 A. D.), distinguished dysentery in which various humors are discharged by stool, from the graver variety due to ulceration of the bowels, in which shreds of the intestines are mixed with the discharges. Other writers of antiquity, as Paulus Aegineta (660 A. D.), who made tenesmus and dysentery separate affections; Fornelius and Fabricius Hildanus gave more or less accurate definitions of the disease and of its characteristic phenomena."

Thus the author quoted leads us down through the ages to the present time, and in passing mentions the first post-mortem examination of subjects, who were known to have died of this affection, as referred to by Antonio Benivieni in 1506; also the writings of Hallerius, 1565; Schenckius, 1584; Sennertus, 1626; Sydenham, 1672; Bonetus, 1679; and Morgagni, 1762; that following these came a host of writers who added much to the clinical knowledge and therapeutics of dysentery by a large experience in epidemics in Europe, India and Africa, and in armies and fleets; and that among those of whom special mention should be made are: Digner, 1743; Pringle, 1752; Vogel and Mayer, 1765; Zimmermann, 1765; Stoll, 1780; Rollo, 1786; Hunter, 1796; Desgenettes, 1802; Fournier and Viday, 1814; O'Brien, 1822; Annesley, 1828: Cruveilheir and Virchow, 1842; Cambay, 1847; Catteloup, 1851; Dutroulau, 1861; Heubner, 1871; Woodward, 1879; Favrer, 1881; Kartulis (in Egypt) 1885; Councilman and LaFleur, 1892; Ogata and Shiga, 1897, in Japan; Flexner, 1890; Strong and Musgrave, 1900, in the Philippine Islands.

I have thus trespassed upon your time to set forth more clearly the magnitude of this subject upon which so many volumes have been written by abler writers from the days of Hippocrates to the present; however, my excuse for selecting this subject is made in the recitation of facts relative to the treatment of this disease, for my belief is that if, during the war between the States and the Hispano-American War, and especially during the various epidemics in this and foreign countries, different ideas as to treatment had been conceived and practiced, not so many deaths would have been recorded. In thus confining my remarks to the treatment, I would not

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engage the thoughts of my hearers in the multitudinous etiological factors and the gross and microscopic pathology of the disease, though to properly treat such cases, one must have a correct idea as to these from the beginning, and during all stages of the affection. Whether the disease be due to the *Ameba dysenteriæ*, or to the *Bacillus dysenteriæ*, or of any other microbic origin, we grant, as do all authors, that each is due to infection by some specific microörganism, and this concession is the basis of all treatment which tends to shorten the duration and lessen the severity of an attack.

Whether the disease be classed among those of sporadic dysentery, such as we encounter especially during the summer and autumn months in the temperate and tropical climates, or occurs as epidemics and of the gravest types, such as that referred to by Shiga in Japan in 1897, when 22,300 deaths—24 per cent.—occurred out of 89,400 cases, the same general idea must obtain as to treatment; however, of course vast differences as to pathology in the different forms and stages of the disease would require a like classification of treatment, but with the same ultimate object in view, viz.: the destruction of the microörganism, cleanliness, rest and restoration of the diseased tissue.

Primarily, it is necessary for me first to briefly consider the subject of acute dysentery, by way of introducing my subject proper—chronic dysentery.

In the beginning of an attack of endemic dysentery, such as we see especially during the summer and autumn, very little pathology is noticeable to one making a macroscopical examination of the affected intestine. The mucous membrane is as yet intact, and is devoid of those grave pathological appearances noticeable in other varieties or in the same case later in the attack. For as yet the serum simply pours out of the swollen mucous membrane as water is squeezed from a sponge, and the membrane seems studded with minute hemorrhagic puncta, and notwithstanding the great exosmosis of this serosanguineous fluid, the membrane remains congested and thickened, and if this great engorgement is not relieved, destruction, first of its epithelial covering, and then of the entire thickness of the mucosa, follows. Here the homeopathic idea, while

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erroneous in fact, would appear correct as to the result, for every physician recognizes the condition and immediately administers drugs which increase the exosmosis, the favorite prescription being magnesium sulphate, with the very apparent and common result of aiding the vessels of the intestines to empty themselves, and of depleting the mucosa. Here, and perhaps without such purpose in view, the microörganisms which bear a casual relationship to the disease are washed away by the free saline catharsis. If the dysentery has been preceded by a diarrhea, and the colon is thought to have been emptied, small doses of castor oil may be preferred to salines.

Entering further into the recent ideas of treatment in the early stages is the administration also of such antiseptics as mercury, salol, guaiacol, zinc sulpho-carbolate, and a host of other drugs which are of undoubted benefit in selected cases. It has been the custom among physicians for many years to administer enemata of starch water, infusions of flaxseed or slippery elm, added to which some give opium in one of its forms. But the local treatment of these, or of graver forms of the disease, has scarcely extended beyond this. The erroneous idea has been that the disease, though affecting the larger bowel, and especially the rectum and sigmoid flexure of the colon, was beyond any possible local application, further than perhaps the use of the Wales metal bougie, which in the majority of cases positively would be dangerous, while the bowel is in this highly inflamed state.

I have recently suggested to one of my confrères the value of local treatment in connection with administration of drugs by the mouth, when his ready response was that he could not get at the seat of the trouble. Those who have used the sigmoidoscope and long rubber tubes know as I do that my friend in this statement is mistaken, and here the need is made apparent of the education of the profession as to the possibilities of the surgeon's efforts when armed, as he must be, with the proper and essential instruments, and is expert in their usage

Not so much need of these instruments is apparent here, however, as in the sub-acute or chronic forms, and in other graver forms of the disease, and I make this distinction because of my belief that in those grave forms of the disease when in a few

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hours the patient would succumb, no great time should be lost in dealing with the condition as necessity may require. In setting forth my idea as to the treatment of dysentery it must be understood, first, that no iron-clad or routine rules of treatment can be laid down. To the contrary, and notwithstanding the merit of any treatment or procedure advised by anyone, the same may in some instances justly be thought impracticable, though scientific. I have never been able to treat children satisfactorily by instrumentation. Though my idea is not in this paper to recite fully the non-operative treatment, I shall mention a few facts and ideas which can not be amiss.

The first of these is the surrounding sanitary conditions, for it is a well and generally conceded fact that heat and moisture and such environments as are unsanitary are predisposing causes of our endemic or sporadic dysentery. Therefore, particular care should be exercised in the selection and care of the bedchamber, as also the house and surrounding premises of one stricken with the disease, and directions given relative to the sanitation of these, and especial care taken in the disposition of the excreta of the patients.

All articles of diet should be selected with the greatest care and thoroughly cooked, if in the least liable to become contaminated with microörganisms. Milk, which in these cases is an article of diet almost indispensable, may be unfit for such use unless boiled. Soft boiled eggs, and especially the whites of eggs, given raw or beaten into froth and sprinkled over with lemon juice, is an article of diet which is the most serviceable and acceptable of all to the irritable stomach and bowel, and chiefly because it is digested in the stomach and leaves little residue. From six to eight eggs will be taken in this way during twenty-four hours without loathing.

In the early stages of the disease, there is usually noted extreme depression and the portal circulation is sluggish. The portal engorgement is first relieved, as also the intestinal tract is thoroughly freed of any indigestible and irritating ingesta by a large dose of salines, among which I prefer magnesium sulphate, to each dose of which may be added dilute sulphuric acid. For extreme depression and sluggish circulation, strychnin is indicated. Following this may be given such intestinal

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antiseptics as zinc sulpho-carbolate and calomel, each one-twelfth to one-sixth grain every one or two hours, which latter serves a two-fold purpose of acting as a local antiseptic (however, in such minute doses it can scarcely be classed as such), and later, by its having stimulated the liver cells, causes a free flow of bile and a freer circulation in the liver, for the bile should not be lost sight of as the normal antiseptic to the intestinal tract. Such remedies as salol, guaiacol, zinc sulpho-carbolate and turpentine have undoubted antiseptic properties throughout the intestinal tract. Either poultices or the ice bag may advantageously be applied over the abdomen, and if need be, additional quiet of the patient and relief of the tormina obtained by hypodermatic administration of minute doses of morphin, one-sixteenth to one-eighth to one-fourth of a grain. The bowel should be thoroughly cleansed by a high enema every six to twelve hours, and these enemata should be rendered antiseptic with either boracic acid or formalin, when thereafter such soothing applications as egg albumin, slippery elm, flaxseed infusion, or starch water may be used; and by reason of the fact that some of the antiseptic solution remains in the bowel, these soothing applications are not as otherwise a rich nidus for the propagation of microörganisms.

If the hemorrhage from the bowel is quite profuse, a very warm enema by the double tube method should be given, and to this solution may be added tannin in any form. Strychnia is especially indicated in these, as may be also ergot or bismuth subgallate. The introduction of the tube in some may be facilitated by making it very cold, while in other cases the warmth is less irritating to the inflamed viscus. However applied, water is essential to secure cleanliness, for how can a membrane so delicate as that which lines the intestines be expected to get well when constantly bathed with the irritating bowel contents, and furnishing, as the intestinal mucosa does in such an inflamed state, a rich nidus for the propagation and dissemination into its deeper tissues and the blood deadly microörganisms and their toxins, is a question which some cases will answer by recovery while failing to explain.

When the case presents graver manifestations, the sigmoidoscope should be used, and though apparently a task, its intro-

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duction is accomplished without great pain or trouble. If the patient is very weak, support by two assistants should be given, so that the knee-chest position can be obtained for the few minutes required; and, before the patient is made to assume this position, every instrument or article which may be needed should be in easy reach of the operator and an assistant ready to hand them to him as required.

The well-anointed sigmoidoscope is then introduced beyond the levator muscle and held steadily, when the obturator may be removed, and a rubber tube, attached to a piston syringe, introduced through the sigmoidoscope and all the fluid drawn away in front of the onward passing instrument. The bowel should be cleansed as the instrument enters with a hot boracic acid and formalin solution, which, if applied very hot, will stop the hemorrhage; or, if this fails, or there is much excoriation or ulceration, a ten to thirty to sixty grain per ounce solution of silver nitrate may be applied to the bleeding and eroded surfaces with a cotton wound probang, or the same may be sprayed with a five to thirty grains per ounce solution with an atomizer. The formal-boric solution insures the destruction of all microörganisms with which it comes in contact, though of the former drug only one to one, two or three-thousand solution is used. When the instrument is made to efface the intestinal curves while entering the sigmoid, more pain is experienced than from any other part of the treatment, and the patient is apt to strain considerably if not forewarned that he must not do so. The bowel thus entered and treated as demanded or indicated as far as the sigmoidoscope can enter, one or two tubes of soft rubber may be passed on further into the colon and a milder silver solution (ten to sixty grains to the quart) used, or these tubes may remain *in situ* while the sigmoidoscope is removed and the patient allowed to rest on the bed, when at a later time the hot antiseptic solution may be used and drained away. Double normal saline solutions are of great value, especially when the patient has been greatly depleted and is very weak. It acts also as an antiseptic in the intestine and may be combined with boracic acid.

If, as I have found beneficial in some cases of a sub-acute or chronic character, it is desired to use boracic acid, iodoform

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or aristol in the dry form, these may be insufflated through the sigmoidoscope on to the bowel surfaces so as to cover entirely the mucous membrane. I have found as the best instrument for insufflating dry dressings into the sigmoid and rectum a common insect powder insufflator with a long peak such as is used by the housemaids to destroy insects about the house and furniture. This dry dressing is very grateful to some patients, and though after the preceding treatment some are caused to suffer some pain and tormina, the dry powder applied over the surfaces soothes and protects these surfaces.

If after some hours from the time of treatment the patient is unrelieved of the distressing tormina, a hot or cold slippery elm, egg albumin, or flaxseed meal infusion may be thrown into the bowel, and either a hot poultice or ice bag placed over the abdomen. If the acute condition has entirely subsided, these procedures will of course be less painful and difficult, but when necessity requires, and when a fatal issue is otherwise probable, must not be neglected, though anesthesia is required to render possible their application. The condition is entirely a local one to the proctologist, and the difficulties are surmountable with, I dare say, a markedly better chance for recovery. In using the hot solutions previously advised, I think it better to use the double tube method, as by this means you avoid the painful or perhaps dangerous overdistention of the inflamed bowel. In the chronic state, I have found the most beneficial effect from iodoform and ichthyol made into suppositories and passed through the sigmoidoscope into the sigmoid. This is especially indicated in tubercular conditions, but in any form of procto-sigmoiditis or colitis, all toxic drugs must be used with caution. I have caused iodoform poison rash in several cases in this way.

The sub-acute and chronic forms of the disease I prefer to treat in my office every third or fourth day, since I there have everything necessary to satisfactorily treat them. I have during the past three months treated seventeen cases in my office, ten of which have been cured. From my notes of these cases I have made the following deductions, which should prove of some value: Eight were evidently previous subjects of obsti-

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pation; two were the result of syphilis; one was the result of tuberculosis; one had previously suffered for a long time with hemorrhoids and proctitis, also a vicarious menstruation from the rectum, which latter condition I have observed in but the one case; five had previously suffered with chronic stomach trouble, gastric distention and gastralgia, and required stomach irrigations and belting; three supervened upon attacks of acute dysentery without any other apparent etiologic factor.

In order to characterize each group and the treatment administered, I will report very briefly one of each series:

Obstipation. Mr. J., of Knoxville, Tenn., had suffered for three years with chronic dysentery which was contracted during service in the Hispano-American war. He had traveled to various sections of the country in quest of health. He had lost forty pounds in weight, and came to me from Florida. He was having fifteen to twenty discharges from the bowel during the twenty-four hours. Nothing which he would eat seemed to agree with him. There was not great tormina attending bowel movement. Prior to the dysenteric condition, he had for years been constipated. Examination: Rectum was inflamed. and above the plicæ, as well as the plicæ themselves, were eroded spots, and from these eroded areas was oozing a sero-sanguinous fluid; covering the entire mucosa was a blood-stained mucus mixed with pus. After gently wiping away this bloody mucus and pus, the inflamed membrane at first seemed studded with minute puncta, from each of which oozed blood. The two lower plicæ were much thickened and could not be effaced. These structures stood out so prominently, and fibrosis was so well marked, that the finger introduced into the bowel without dilation could easily detect them as hard semifibrinous bands crossing the bowel lumen, one just above the other and attached to opposite sides of the bowel wall.

Hot formalin solution was used through the sigmoidoscope to cleanse the entire mucosa of the rectum and sigmoid, and after getting this away and drying the mucosa, a suppository of ichthyol, aristol, morphia and cocoa butter was introduced on a long stick through the sigmoidoscope and deposited beyond the end of the tube and passed out of sight into the colon. Then silver nitrate, thirty to sixty grains to ounce, was applied to all ulcerated or eroded spots, after which the entire bowel mucosa was covered with aristol, bismuth-formic-iodide and boracic acid by insufflation.

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This treatment was repeated every third day, and in the interim every night he had the bowel washed thoroughly with either saline or boracic solution, and one hour thereafter, when the bowel had passed off all of the irrigating fluid, he had deposited through the smallest size soft rubber rectal tube attached to piston syringe, bismuth subnitrate one dram, olive oil one ounce.

As soon as the more violent inflammation had subsided sufficiently, valvotomy was performed by the clip method; treatment by enemata and rigid diet continued until the clips had come away, when the active treatment was resumed. He was dismissed in one month entirely well, and I am reliably informed has regained all lost weight—having weighed at the beginning of treatment 130 pounds, his present weight being 170 pounds.

He was kept under the close and watchful care of his uncle, Dr. John F. Cochran, while under my treatment, and in this way his strict regimen of diet was maintained.

Of the syphilitic cases I have little to say. They are not well, and I have neither learned from medical literature or my own personal experience how to make them so. You seldom see this class of cases until the involvement is so extensive as to preclude hopes of a perfect and permanent recovery.

The treatment previously outlined, combined with the internal administration of iodides and the oxytanate of mercury, or mercury rubs, has been the treatment prescribed.

The tubercular form of the disease I believe is amenable to the same treatment, with the addition of iodoform rubbed into the bowel walls, either in the form of an emulsion or, much better, the iodoform-vasogen rubbed into the coats of the bowel every third day until iodism is well marked, when it should be maintained for some days. Ichthyol and formalin also are credited as highly as the iodoform for the one recovery in the two cases treated, only one of which is included in this report. The other case would not submit to the dreadful taste and unpleasantness of iodism, though when he left me he no longer had dysentery, and his bowel only moved once or twice in twenty-four hours. The last time I heard from him he was in Hot Springs, Arkansas.

Among the six referred to as having associated stomach troubles, I scarcely know which could be the most interesting.

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They are all so, and if time permitted, I would report more fully each, instead of one.

On June 6, 1900, I was called to see Mr. R. and treated him through an attack of acute dysentery. He had suffered previous attacks. His bowels were quite sensitive and tender to weight. I attended him one week and dismissed him. He has had other attacks for which I have not treated him, and I lost sight of him until September 10th, present year, at which time he presented himself for examination and treatment. Said he had been treated by my friend, Dr. Krauss, for stomach indigestion and distention by irrigations and dieting. He said that he had, however, just returned from Battle Creek Sanitarium, where the strict regimen of diet and enemata had benefited him, but temporarily only. Examination revealed a greatly distended colon, abdomen tympanitic and tender. Proctoscopy revealed the cause of his constant pain in the abdomen, enormously distended large bowel and intermittent dysentery. The two lower plicæ were greatly hypertrophied, and so close together as to almost be coarcted. Fibrous infiltration was extensive. The proctoscope could only with difficulty be made to pass these structures. As soon as practicable, valvotomy was performed and he is greatly improved. Indeed, he considered himself well just the other day, at which time his abdomen was noted to be flat. He had not suffered for a week with flatus or abdominal pain. Has gained in weight and strength and is improved in spirits. I noted at this time, however, that the clip had not taken away a sufficient bite of the lower valve, and I immediately applied another, which will come away in eight days, and he will then be dismissed. I have kept the abdomen strapped with wide adhesive for two weeks, which he says gives much support and relief. In several cases of this nature I have been forced to irrigate the stomach, but in this one the previous treatment had been quite sufficient as far as the stomach was concerned.

Among the sixth division of cases is that of Dr. J., who was referred to me by Dr. Richmond McKinney, of Memphis, on October 3rd, present year. He had suffered an attack of tropical dysentery in Central America, for which cause he abandoned his post and went to New York, where he had his appendix removed. His dysentery, however, continued, and he had his bowel cauterized under anesthesia, and had submitted to much treatment with no benefit.

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I found in his case the typical procto-sigmoiditis, and the three treatments given him have benefited him more than all that had previously been done for him. I do not doubt that his appendix was diseased, nor do I doubt the necessity of having it removed, as was done by one of the ablest men in America, but here is an important surmise and an interesting fact which I would have you note:

First, his appendicitis may have been a result of an extension of a subacute inflammation of his colon, and the great distention of that viscus incident to intestinal fermentation. Secondly, it is a fact, as noted by me in some of these cases, that pain is referred from the plicæ transversalis recti to the appendix, as in the case of Mr. R., previously referred to, considerable pain was experienced in the right iliac fossa, about McBurney's point, for some hours after the clips were applied.

Lyceum Building.

RUPTURE OF THE HEART—REPORT OF A CASE.*

BY CUMMINGS HARRIS, M. D.
MEMPHIS.

It is not my purpose to write a thesis or monograph on this subject, but merely to report a case, the clinical symptoms of which were not prominent enough to reveal complete diagnosis, the condition being discovered post-mortem.

The patient, John H. Grove, aged 64, white, occupation painter, was admitted to the hospital May 1st, 1901. Complained of short cough, dyspnea, worse at night or in recumbent position, pain over precordia paroxysmal and anginoid in character. Had slight edema of extremities and eyelids. Skin was pale and waxy, but tips of fingers, of ears and lips were cyanotic. No temperature; respiration slow and labored. Family history was negative, father and mother dying of old age. He stated, as to personal history, that he had had usual diseases of childhood, syphilis when a young man, and had had rheumatism. Had never been addicted to use of alcohol or tobacco. Physical examination of lungs negative, except that there was some serous transudation, due to venous stasis, hence, while there was no organic lesion of lungs, they

* Read before Memphis and Shelby County Medical Society, Nov. 3, 1902.

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were in a condition of passive congestion. Heart: on inspection, the apex beat was noticeably displaced downward and to the left, being in the seventh interspace. There was no precordial bulging. Visible pulsation of temporal arteries and throbbing of carotids; also pulsation of axillary and popliteal arteries, and in epigastrium. Opthalmoscopic examination revealed pulsation of retinal arteries. Palpation confirmed inspection as to displacement of heart. There was marked pulsative thrill over precordial space, greatest at apex. This was suggested as probably being due to aneurysm, but rejected on theoretic ground that there was no bulging and pain was not sufficient to justify diagnosis of aneurysm. Heart action was irregular and intermittent, and cardiac impulse of lowered force, which seemed at variance with pulsation of large vessels. Palpation of superficial blood vessels revealed arteriosclerosis of marked degree, vessels being twisted, tortuous and rolling under finger. Pulse could not be compressed, on account of thickening of vessels. Pulse was not characteristic of any lesion, but intermittent and feeble, on account of failure of compensation. Percussion elicited increased areas of cardiac dullness, both superficial and deep, the superficial area of dullness being markedly increased on account of hypertrophic dilatation of left ventricle. On auscultation, a murmur was heard at the apex with the first sound of the heart, feebly transmitted around axilla, but quite distinctly heard posteriorily; also murmur replacing second sound of heart heard all over sternum, the point of maximum intensity being in the aortic interspace, transmitted down sternum and also up vessels of neck; and to complete the cycle of lesions, murmurs feeble in quality and possessing no transmissive power were heard over the pulmonic and tricuspid areas, denoting relative incompetency of those valves. There was no *bruit* at any point over precordia. Examination of the other organs negative as to organic lesions, but all were in a state of passive congestion. Kidneys: examination of the urine revealed albumin, some hyalin casts and a few blood cells; the urine voided was diminished in quantity, reddish in color, and of low specific gravity. Diagnosis was made of chronic diffuse nephritis (but passively congested, which accounted for condition of urine), with left ventricle hypertrophy, as primary lesions, and incompetency of all valves, as to cause of which various theories were proposed—rheumatic endocarditis with valvulitis, or sequential to strain incident to arterio-sclerosis, and lesion of kidneys. However, he was advised of his condition, placed upon treatment (not digitalis) and told to keep quiet in bed. On May 6th, while stooping over, he fell forward on his face dead.

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Autopsy was performed, and on removing the sternum the pericardial sac was at once noticed to be distended. On opening the pericardium it was found to be filled with a large amount of coagulated blood. The cause of the hemorrhage was immediately located on the anterior wall of the left ventricle, at apex, the usual site. An aneurysm of the heart had ruptured. The aneurysmal sac was one-half inch in diameter and composed of myocardium and serous layer of heart sac. It contained laminated fibrin. There was found in the mass an organized clot that exactly fitted the sac. An atheromatous ulcer had been the cause of the aneurysm. The endocardium had been the seat of an old inflammation that had produced thickening, with primary valvulitis at the aortic leaflets. The cusps were thickened and retracted. There were calcareous deposits in the sinuses of Valsalva, and calcareous plates could easily be peeled from the aorta. The mitral, pulmonic and tricuspid valves were thickened and dilated. They were all in a condition of relative insufficiency; all the heart chambers were in a state of dilated hypertrophy, the left ventricle amounting to so-called *cor bovinum*. The heart muscle was generally thickened, and showed evidences of chronic inflammation with fibroid induration and subsequent fatty degeneration outside the fibroid areas. The coronary arteries were calcareous, but showed no attempt at thrombus formation. Interference with the circulation in the coronary arteries is a frequent cause of a more or less general degeneration of muscular tissue. This occurs especially in aortic incompetence, and explains the early failure of cardiac power in the form of valvular disease. The weight of the heart was twenty ounces. The other organs, with exception of the kidneys, showed no organic lesion, but were slightly enlarged, due to venous engorgement. The failing compensation had induced the usual visceral congestions. The kidneys were cirrhotic, showing nephritis of the arteries—sclerotic type, small in size, capsule adherent, stripping with difficulty; the surface was granular, the cortex thin and markings poorly defined or obliterated; the cortex was red, due also to congestion. The renal arteries were calcareous.

I do not think that this condition of aneurysm of heart could have been diagnosed without a fluoroscopic examination, and while aneurysm was suggested, still the symptoms did not justify a positive diagnosis. This case I report as unusual from the fact that Lockwood states that rupture of aneurysm of heart has occurred in but seven out of ninety cases; and I

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am further justified by his saying that "the symptoms are not distinctive and diagnosis is rarely made." But Musser states that "with either diagnostic signs or pressure symptoms present in a male, past forty, with a previous history of syphilis, gout, alcoholism or muscular strain, the probability of the existence of an aneurysm ought to be expected."

A CLINICAL REPORT OF THREE RATHER PECULIAR CASES.*

BY EDWIN WILLIAMS, M.D.

MEMPHIS.

Case I. On the night of Sunday, August 3, of this year, I was called to see Mr. T., who is a carwheel tester at one of the railroad yards. I found him in bed suffering intensely with cramp-like pains in his forearms and calves of his legs. The pains would come on at intervals of about every three minutes and last about one minute; during the intervals he was comparatively easy. Normal temperature, with pulse of 100°F., full and strong; tongue slightly coated; no nausea, no headache. Gave history of working in hot sun the day previous and drinking plenty of ice water at frequent intervals. Was perfectly well when he went to bed the night before. Slept well, but awoke with a slight frontal headache, which passed off in a few hours. After eating his Sunday dinner, which contained nothing he had not been accustomed to eating, he laid down and dozed off. About 4 o'clock he awoke with the cramp-like pains before mentioned, which had been getting worse up to the time I saw him. His bowels had moved freely in the morning; had eaten no supper; had pain nowhere in his body except in legs and arms. Gave him one-tenth grain apomorphin, thinking it might be undigested food in his stomach. Vomited freely, mostly water. Then gave hypodermic containing $\frac{1}{4}$ morphin, $\frac{1}{150}$ atropin, $\frac{1}{30}$ strychnin, which after about one-half hour quieted him. Left a prescription for a saline purge to be given that night.

When I came back the next day, Monday, at 11 A.M., the purge had worked freely and the pains in his legs had ceased, but the pains in his arms were still severe, though at longer intervals apart. Temperature 99½°F.; pulse 90. Left a prescription of salicylates and Dover's power.

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* Read before Tri-State Med. Assn. (Miss. Ark. & Tenn.) Memphis, Nov. 11, 1902

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The next day, Tuesday, the pains in his arms had ceased, but the calf and heel of right leg were paining him considerably, though the rhythm had ceased and the pain was more of a dull throb. Complained of pain in both ears. Temperature 102°F.; pulse 110. Bowels had moved freely during the night, several times. Was able to eat oatmeal and toast for breakfast, the first nourishment except milk which he had taken since Sunday dinner. I saw him this day about 9 A.M.

At 7 P.M. of this day (Tuesday) I was again telephoned for and found the pains in legs and arms again as severe as on my first visit, and a foul muco-purulent discharge from each ear. Gave another hypodermic of morphin, atropin and strychnin, and left a prescription for a boric acid wash for ears, to be given with a small syringe. Temperature 103°F.; pulse 115 and weak. I then left, intending to bring an ear specialist if he was no better in the morning.

When I returned the next morning (Wednesday) I found, to my surprise, the ears had ceased discharging, pains gone, normal temperature and pulse, and the patient, whom I had considered in rather a critical condition the night before, able to sit up in bed. Said he felt very well, but weak.

Next day he came to my office complaining of a slight frontal headache; no pain anywhere else; had no fever; had slept well the night before. He has been perfectly well ever since. He asked me several times what I thought was the matter with him. I told him I did n't know.

I neglected to say I obtained a sample of the discharge from his ears, which under the microscope showed pus-producing germs in numbers.

Case II. Last September I operated upon a young woman for the cure of dysmenorrhea. The anesthetist gave ether at the close of the operation. When the etherizer removed the cone we found the right side of the face wet and cold from the ether which had constantly dropped on her face through a hole in the side of the cone. The time the cone was over the face was about half an hour. The leaking cone was partly my fault, in not looking more closely at what the etherizer was doing, and partly his, in using a cone which was defective. The cone used was an ordinary straw gauntlet, lined inside and out with cheesecloth and packed in the bottom with cotton fastened in. We put her to bed with a hot cloth covered with vaselin next to the right cheek. She recovered successfully from the operation for dysmenorrhea, and said she felt no pain in her face, which however was a little hard to the touch.

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Five days after the operation she had a sudden attack of pain in the right side of her face, which in a few hours developed the usual symptoms of Bell's palsy. Speech and deglutition were interfered with, and the face was drawn toward the sound side, especially when she tried to speak. There was practically no pain. This condition persisted for three weeks and finally ceased, and today she is as well as ever.

The only treatment was the application of hot cloths twice a day to the affected side, and faradic electricity three times a week.

This was apparently a case of traumatic Bell's palsy, and I wish to call your attention to the fact that ether, when carelessly given, as in this case, coming in contact with the skin for too long a time, is capable of causing it.

It is said that levity is occasionally enjoyed by doctors as well as laymen, so I will relate the following incident:

Case III. An old maid of, say 35, to be generous, came into my office one afternoon about two weeks ago, to be examined for life insurance. You all know the usual questions necessary to ask before you examine the applicant's heart, lungs, etc. I wish to say first that the lady had never been examined for insurance, and of course the questions were new to her. I got her to answer the various questions with reluctance on her part until we came to the question, had she ever had any diseases of the lungs? Here she said, "Young man, what is the use of asking me all these foolish questions? Can't you see I am in good health? Just write across that paper I am all right, give me my policy and let me go, as I have some shopping to do." I explained as gently as I could that it was not in my power to hand her a policy; that this was sent from the home office if she was considered a good risk by the medical director, and the company required these questions to be answered by the applicant. She snorted, again expressed herself of the belief that it was nonsense, as she knew she was all right, but she would go on to answer. After an enormous effort on my part, I finally got her to answer every question, examined her heart, lungs, pulse, chest measurement, etc., much to her evident disgust, and in the midst of a constant stream of expostulations. Then we came to the last—the examination of the urine. I felt when I broached the subject to her there would be trouble, and I was not disappointed. I explained that everything was now finished except the urine examination, and if that was as good as the rest she would, I feel sure, have no difficulty in obtaining her "policy."

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Her face flushed and her eyes grew angry as she asked what I meant. I said, "According to the rules of the company every applicant's urine must be examined." "Young man," said she, "do you mean to tell me you expect me to give you some of my water in a bottle, to look at?" "Yes, madam," said I. Said she, "I never heard of such a thing! I consider you a very vulgar and indecent young man, and shall have nothing more to do with you or your company." With these chaste remarks she flounced out of the office, and I sighed and sat down. I have not seen her since.

Odd Fellows Building.

FEEDING IN FEVERS.*

BY D. M. HALL, M.D.
MEMPHIS.

In reporting the following cases I hope to be able to convince you of three facts concerning the dietetics of continued fevers, whether typhoid or malarial:

1. That it is not always necessary to limit the patient to a liquid diet till the end of the fever.

2. That such a limitation may be one of the chief factors in the prolongation of the fever.

3. That solid food given before the subsidence of the fever in a great many cases not only does no harm, but may be one of the chief factors in reducing the fever and shortening the length of its duration.

W. Gilman Thompson, in the last edition of his work on *Practical Medicine*, says: "I have seen genuine scurvy produced by the too long continued use of an exclusive milk diet, which certainly protracts convalescence; and while relapses are common enough in this disease, just as many occur among patients who may be still upon an exclusive milk diet as among those fed earlier. Typhoid fever is essentially a relapsing disease; about 10 per cent. of all patients have a relapse, no matter what their treatment may be, and many relapses are due rather to intestinal auto-infection, or streptococcus infection, than to any reopening of ulcerated surfaces in the intestine by solid food or the delusive *febris carnis;* no more solid food can enter the bowel at any time than undigested

* Read before Memphis and Shelby County Medical Society, Nov. 18, 1902.

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milk curds, and as Henry has written, 'it is not so much solid as indigestible food that should be eschewed.'"

Case I. Mrs. L., aged 40, white, widow. This patient had several chills at irregular intervals, followed by a continued fever. Whether or not her fever was intermittent in the beginning I do not know. I saw her first on the eighth day of her disease. The fever was then remittent in character, and was running from 99½°F. in morning to 101°F. in evening. Patient had been taking small doses of quinin during the first week of her illness. She was complaining of nausea, headache and aching in her bones. Epistaxis had occurred on one or two occasions, but was not severe. Her bowels were constipated, spleen moderately enlarged and indurated, and hepatic dullness normal. I gave her ten grains of calomel in one dose, and five grains of quinin sulphate every four hours for twelve doses. The purgative acted well, but the only effect of the quinin was to slightly reduce the temperature. The fever gradually rose after the quinin was discontinued, and ranged from 101°F. in the morning to 103–4°F. in the afternoon. The stools numbered four or five per day, and were watery and offensive. The case was then diagnosed as typhoid fever. The patient was put upon a strictly liquid diet, and betanaphthol, five grains every six hours, was prescribed. This treatment was continued for four or five days without producing any perceptible change in the condition of the patient. She still complained of attacks of nausea, but retained all medicine and nourishment. Temperature 101–104°F. I then prescribed acetanilid, grains five, to be given whenever the fever reached 103°F., and to repeat the dose in two hours if necessary. Exclusive liquid diet was still continued. Two weeks later the temperature was running to 103°F. in afternoons, and patient had two or three rigors, followed by a rise of fever. Sulphate of quinin was then given in the same manner and quantity as previously. The fever subsided to 99½–101½°F. All medicines were then stopped and the patient put upon stimulants in addition to liquid diet. I would like to say here, that in all these cases the nourishment consisted principally of milk, and was administered every two hours while the patient was awake. Ten days later the temperature was from 100 to 102½°, pulse rapid and feeble, bowels constipated, and patient very weak. I then told her that, not knowing what else to do, I was going to try an experiment upon her by giving her anything she wanted to eat. That my treatment so far had been of little or no benefit to her, and that if she was determined to die, she might as well do so with a full stomach. She ate

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for dinner sauer-kraut, pickles, cornbread and beer. For supper she had ice cream, coffee and cake. Next day her highest temperature was 102°F. She continued to eat anything she pleased, and at the end of a week the fever disappeared and she was discharged as cured.

Case II. P. Murphy, male, white, aged 17. This was a case of continued fever diagnosed as typhoid-malarial. I did not see the patient until the eighth week of the disease. Previous to that time the disease had run the usual course. Dr. Henning had charge of the case when I saw it. Dr. Henning was unable to see the case that day, and requested me to make the call. I found the patient feeling very well, with no pain in the abdomen, and bowels in fairly good condition. He had been upon a liquid diet since the beginning of his disease. His temperature was averaging 99½°F. in the morning, and 102°F. in the afternoon. He complained of being very hungry. I ordered for him a small beef-steak, coffee and one biscuit. That night Dr. Henning asked me how the patient was doing. I told him he was doing very well and that I had ordered beef-steak, coffee and biscuit for his supper. Dr. Henning did not approve of the diet, and remarked that we would very probably have a death in a day or so. Next day he called to see the patient and was astonished to see him bright and cheerful and his temperature lower than on the previous day. The solid food was continued, fever steadily declined, and in a few days the patient was discharged as cured.

Case III. Boy, white, aged 14. Occurred two weeks after Case II. Diagnosed as a case of continued malarial fever. The usual symptoms were present. The patient was put to bed and quinin sulphate and calomel in full doses were administered. The temperature was lowered very little. He was then put upon capsules containing quinin bisulph. gr. ii, acid arsen. gr. $\frac{1}{40}$, calomel gr. $\frac{1}{10}$, acetanilid gr. iii, one capsule four times. This treatment was continued for two weeks. The temperature was lowered by the antipyretic, but rose again as soon as the capsules were stopped. The patient had been upon liquid diet from the beginning of the disease. All medicines were now stopped, and at the end of a week the fever was ranging from 100 to 102°F. This was the twenty-eighth day of the disease. The patient was then put upon solid food, beginning with rare tenderloin steak, tea and toast. At the end of ten days more the temperature was normal and the patient was discharged.

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Case IV. Male, white, aged 22. Telegraph operator. This case was attended by Dr. Henning and diagnosed as typhoid fever. The patient was very much prostrated, and the prognosis was unfavorable. Under Dr. Henning's treatment the patient gradually improved. On the twenty-eighth day of his disease, Dr. Henning left the city and the patient was turned over to me. When I saw him his temperature was 99 to 100° F, pulse slightly accelerated, but of good tone and volume. No abdominal tenderness or distention. Average of two stools per day. Character of stools good. Patient had been upon liquid diet from the beginning of his disease. He complained of being very hungry, but liquid diet was continued for one week longer. His temperature then was 99 to 100°F.—other symptoms unchanged. The patient was then put upon solid food in limited quantities, beginning with steak, tea and toast. His condition improved, he gained strength rapidly, and in a few days he was entirely free of fever.

Case V. Miss W., white, aged 17. School girl. This case was seen first on the fifth day of the disease. She gave a history of having had two severe chills, twenty-four hours apart, followed by continued high fever. Calomel and quinin sulphate were given in full doses. Temperature forty-eight hours after quinin was begun was 99½° F. in the morning. The same afternoon the fever rose to 102°F. Next day a blood specimen was sent to the Board of Health, and the report showed a typical typhoid reaction. The patient was put upon a liquid diet and antipyretics were given p. r. n. The temperature ranged from 101 to 105°F., but there was no delirium or tympanites. The stools numbered from four to six in twenty-four hours. By the twentieth day the temperature was 100 to 102°F., and the patient appeared to be doing well. On the twenty-first day she had a rigor and the fever rose to 105°F., and continued high for three weeks, when it began to subside. On the fifty-second day of the disease the morning temperature was 99½°F. and the afternoon 102°F. The patient was taking no medicine and was still upon a liquid diet. She had little appetite and complained of feeling very weak. There was no abdominal pain or tenderness, and the stools were normal in number and character. She was put upon solid food (baked apple, baked Irish potatoes, coffee and bread) and eight days later the fever had entirely disappeared and she was discharged.

299 Main street.

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Memphis Medical Monthly

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MODERN ASPECTS OF APPENDICITIS.

At a recent medical convention a well-known physician declared that he had never known anyone to die of appendicitis, except after an operation had been performed. A good many non-professional people have observed the same thing.

No doubt there exists in the popular mind an impression that the operation is more dangerous than the appendicitis itself; and so far as the experience of the average man is concerned, this impression is justified. Of course, he can recall several instances where the operation has not been followed by death, just as he can recall several instances where it has. This in itself would prove nothing. In those who died the disease might have gone too far to be arrested, and unless there is conclusive evidence that death was due to the operation, it would not be fair to make such a charge. A few weeks ago a brilliant young author, Frank Norris, was suddenly stricken with appendicitis. He was operated on, and the dispatches stated that he died as a result of the operation. Whether this was merely the loose language of the correspondent we cannot say, for we have seen no detailed account of his illness; but we cannot escape the conviction that if he had not been operated on, the author of "The Octopus" would be alive today to complete his great triology of novels.

The thing, however, that gives us pause regarding the advisability of the operation, is the fact that we can recall nobody who was not operated on that has died of appendicitis. Perhaps nearly everybody can recall the names of several persons who were pronounced by competent physicians to have appendicitis, and we can hardly have failed to note the singular coincidence that these persons have not been operated on and that they are still alive.

The whole thing resolves itself into a case of statistics. Steps should be taken to ascertain:

1. How many persons operated on die?
2. How many persons operated on get well?
3. How many persons not operated on die?
4. How many persons not operated on get well?

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Of course it is not easy to get statistics regarding the last class. There are a good many cases, for instance, where individuals have been told that they had appendicitis, but they declined to be operated on. When they got well it would be inferred that they did not have the disease. At any rate, there would be no report of it, especially if an operation had been recommended. A well-defined doubt has developed as to whether the operation is the proper treatment for appendicitis, and it is amplified by the fact that people who refused to submit themselves to the knife are now walking the streets, while a considerable number of those who did submit to the operation are in their graves.

Editorial in the (Memphis) Commercial-Appeal.

A misconception of the remarks made by the physician referred to above, which were delivered in a discussion on appendicitis, at the recent meeting of the Tri-State Medical Association, has led to considerable sequent discussion, the editorial reproduced by us being one of the products. The physician quoted is a man of many years' large and active practice, and his experience and ability always lend great weight to his statements, so it is all the more pity that he should have been misunderstood as to his position. Our understanding of his attitude toward the operation for appendicitis, is that he is opposed to early operation, and that he has more frequently observed the acute symptoms to be relieved by medical treatment than by operative. Not only does he not condemn operative interference altogether, but urges the operation after subsidence of the acute symptoms. His experience has been unfavorable as to the operation only when performed at the height of the disease.

The author of the editorial in the *Commercial Appeal* arranges a series of questions which he desires answered, stating that the whole question resolves itself into a case of statistics. This might be true as to relative facts, but as to positive evidence of the value or not of the operative treatment of appendicitis, statistics such as he proposes could hardly be determinative. In the present state of the public mind as to permitting operative interference in this disease, the operation for appendicitis is so frequently necessarily performed as a *dernier ressort*, when the patient is already going to *exitus*, and the surgeon accepts a forlorn hope, that statistics of the number of persons operated on who die would contain so many desperate cases that they would offer no fair comparison. If we were, however, to

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take into consideration only those cases which have been submitted to operation at the time advised by surgeons, before the appendix has perforated and peritonitis has set up, we believe a just valuation of the operation for comparative study could be obtained. This study would quite likely show that there is a mortality in these cases of practically not more than one per cent. The same statement as to a lack of value of present operative statistics would apply in ascertaining the number of persons operated on who get well. The timely cases nearly all get well, but the delayed—that is, third or fourth day—operations would naturally increase the mortality reports in this instance. The third question, as to how many persons not operated on die, would be exceedingly difficult to answer, for these cases so frequently improve, to have recurrence in the future, many of them being carried off at a remote date from the first attack, that it would be almost impossible to obtain detailed and reliable reports in this connection. Fulminating appendicitis is exceedingly fatal, and most practitioners can report some experience with this phase of the disease. It is now well known that subsequent to appendicitis may appear one or more of a number of other lesions, such as hepatic abscess, abscess of the kidney, empyema, septicemia and pyemia, one or all of which would be sufficient to occasion the death of the patient more remotely. Thus it will be seen that it is not the immediate effects of the appendicitis alone which are to be apprehended, but its bearing upon future disorders is very pertinent. If surgeons would quit operating on last resort cases, which they do in the predominant desire to give their patients every chance for life, although realizing that their reputations and statistics alike will suffer by the probable fatal outcome, then we could report more conclusive evidence as to the number of patients with appendicitis who would die without operation. In this instance the surgeon is his own worst enemy.

Now a word or two further as to the results of operations when performed at a favorable time. Joseph Price, of Philadelphia, whose dictum in such matters is valued as highly as that of any known authority, states that operation during the first day, when the disease is confined to the appendix, should

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be, and in his experience is, absolutely devoid of mortality. Yet if unoperated on altogether, we can be reasonably positive that a certain percentage of these cases will go on either to immediate death, a lingering illness with sequent disease in more remote organs, or else the victim may be subject to recurring attacks of appendicitis with perhaps ultimate rupture of the invariable appendiceal abscess with peritonitis and death. In this connection, a prominent surgeon recently told the writer that he could report a series of sixty-eight recurrent cases in which he had operated with complete cure, where every case had previously been treated in the medical way and pronounced cured. Several similar cases where he had advised operation, had declined this, and subsequently died from the disease. Another surgeon of extensive practice stated that in the last six years he had not lost a case.

The interval operation, or operation after the first attack has subsided, is performed by all surgeons as the one of election, and Sir Frederick Treves, the celebrated English surgeon who operated on King Edward, claims to have operated one thousand times in the interval with but two deaths.

Undoubtedly there is a tendency to conservatism in the appendicitis operation, but this conservatism does not argue for non-operation, but for delay until all acute symptoms have subsided. Such conservatism is constantly being justified by the experiences of various leading surgeons. Broca, surgeon to the Trousseau Hospital for Children, in Paris, recently stated,* in a synopsis of his statistics since 1892, that for three years he considered it expedient to operate in all cases, with very few exceptions, and the mortality was 33 per cent. Then he began to operate after subsidence of the acute symptoms, and his death rate in 1896 was 13.33 per cent., and only 10.85 per cent. in 1897, 1898 and 1899. His colleague at the Trousseau Hospital, Dr. Kirmisson, had tried the immediate operation, with the result that he had 50 per cent. of deaths. He then turned to his former practice of operating in the interval. Unquestionably, if the operation could be performed on the first day of the attack, the danger

* Paris Letter, Journal of A. M. A., Vol. 39, No. 21.

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of a fatal result would, as claimed by Price and other eminent authorities, be reduced to a minimum; but the surgeon is generally called on the third or fourth day, after the appendix has been perforated, or a gangrenous condition of the intestine has developed, when naturally the mortality would be much heavier. With this fact before them, it behooves surgeons to constantly advocate the interval operation, for their results would be much more satisfactory, and the operation would find far greater favor in the public eye. Immediate operation is essentially proper in the case of immediate diagnosis, but otherwise, conservatism and delayed operation should be the practice.

THE TRI-STATE MEETING.

The nineteenth annual meeting of the Tri-State Medical Association of Arkansas, Mississippi and Tennessee, which took place in Memphis on November 11th, 12th and 13th, was, as predicted, the most successful meeting of this organization that has ever been held. It was estimated that more than four hundred physicians were in attendance, and every moment available during the eight sessions, was taken up with the reading of a number of exceedingly valuable papers.

In this latter connection, it may be remarked that the quality of the papers presented at this recent meeting was superior to those of any of the previous meetings. Several distinguished physicians from various large medical centers added to the interest of the meeting by contributions of rare merit to the program.

The Tri-State Medical Association has taken a place among medical associations that is individual in its uniqueness and remarkable development. It brings together annually quite an assemblage of leading practitioners from the littoral, lowlands and uplands of the territory known as the Mississippi Valley, and the subjects discussed at these meetings are of great importance to the practitioners of this portion of the country. Every physician eligible in the tributary portions of the states comprising this organization should be a member of this association, and should lend his presence and voice to the upbuild-

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ing of an association whose exceptionally successful meetings have prime importance in their bearing upon the development of the medical talent of this section.

EDITOR'S NOTES.

DR. J. C. PERINE, of New Orleans, who is well known to the physicians of Memphis and vicinity, was in Memphis during the meeting of the Tri-State Medical Association, in charge of an attractive exhibit of the Oakland Chemical Company.

THE ASSOCIATED PRESS having failed to mention the fact, we inadvertently omitted the name of Dr. William Britt Burns, of Memphis, from the list of officers elected at the recent meeting of the Mississippi Valley Medical Association. Dr. Burns was honored with the office of second Vice-President.

THE MEMPHIS HOSPITAL MEDICAL COLLEGE opened for the session of 1902-3 on November 1, at 2 P.M., in its splendid new building on Union Avenue. The address of welcome was delivered by Hon. M. R. Patterson. Nearly 500 students were present at the opening exercises of the College, and indications point to an attendance of between 800 and 1000 students at this session.

THE MEMPHIS MEDICAL MONTHLY closes with this issue its twenty-second year of existence. The growth of this journal has steadily been upward during its entire history, and the year just closed has been the most successful that it has ever known. The MONTHLY circulates throughout almost the entire South and Southwest, and has every reason to congratulate itself upon the position that it holds with the profession and the advertisers, for hardly a day passes that it does not receive words of encomium from both classes of patrons. We wish every one of our friends a Merry Christmas and a Happy and Prosperous New Year.

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SOCIETY PROCEEDINGS.

TRI-STATE MEDICAL ASSOCIATION OF MISSISSIPPI, ARKANSAS AND TENNESSEE.

Nineteenth Annual Meeting,
Held at Memphis, Tenn., November 11, 12, 13, 1902.

The association was called to order by the President, J. B. McElroy, M.D., Stovall, Miss.

Puerperal Convulsions, with Report of Seven Cases.

W. D. Ray, M.D., Osceola, Ark.

Varied opinions as to etiology and treatment.

First case: Primipara at seven months. General anasarca of body. Pilocarpin and calomel used at this time. Delivered two days after.

Second case: Called at time of convulsion. Veratrum used in ten-drop doses. Chloroform and pilocarpin used. Successful delivery.

Third case: Delivered by forceps and no trouble.

Fourth case: Called after had been having convulsions for twelve hours. Delivered safely by forceps.

Fifth case: Tried to use veratrum, but no good result. Cervix dilated; chloroform used and parts relaxed, with safe delivery.

Sixth case: Patient in hands of midwife. Flooding and placenta previa delivered by prompt use of normal salt solution by intravenous injection. Child dead, patient recovered.

No disease in which the physician is thrown so much on his own resources. Confidence must be had in physician by patient. Doctor must impress on patient the necessity of employing physician before and after parturition.

Etiology given. Kinds of convulsions. Pathology. Toxemia in body of both mother and child. Toxins in urine. Said by some to be produced by germ, but author does not believe in this theory. Some hold that pressure on ural vessels is the cause, but fibroid uterus does not cause it. Nephritis held by some to be the cause. Jewett holds that

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nephritis is caused by the pregnancy. Both acute and chronic nephritis found in pregnancies, but we have nephritis in other cases which are not subject to convulsions.

Elimination is slow in pregnancy, and hence toxins are held in body. Nerves are overstrung. Many pregnant women with constipation, coated tongue, inactive kidneys. Such cases must be cared for. Use of digitalis, calomel and hyposulphite of soda. Veratrum is the sheet anchor of some and some advise against its use. Used in dram doses by some until one ounce is given. Morphin has never yielded good results in hands of author. Chloroform used with good results. Pilocarpin has yielded best results of all medicines in hands of author, but best of all is to empty the uterus.

Dr. R. C. Prewitt, Osceola, Ark. The paper is too good to pass unnoticed. He has used pilocarpin only twice, and without favorable results. Has had excellent results from veratrum viride. No one is satisfied as to the etiology. He believes that it is a reflex condition. Women of nervous disposition are most liable to this disease. He does not believe that it is due to albuminuria.

Dr. W. A. Powell, Hernando, Miss. Has never had any experience with the use of pilocarpin, but uses the lancet, morphin and veratrum. Does not know etiology. Puts patients liable to this condition on Basham's mixture.

Dr. J. P. Bone, Arlington, Tenn. Tried in one case to use veratrum, but could not do so by the mouth, being forced to resort to its hypodermic administration. This was done in the forenoon, and in the afternoon the patient was found in convulsions. He gave ten drops more. In the evening the patient was delivered with forceps. In another case gave veratrum before term, and the patient came to term all right. Has never seen a case terminate fatally when used in time. Knows no medicine more deserving to be called a specific than veratrum.

Dr. J. H. Stolper, Memphis. Has not had much experience with puerperal convulsions. In hospital experience in New York, urinalyses were made constantly during the last month. In cases of hyperacidity, Epsom salts was given with most excellent results.

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Dr. Ray, closing. Preventive treatment best of all. Where patients are seen a month or so before parturition, he thinks that it could always be kept off. In years gone by he used the lancet, but in cases of flooding could not see use of bleeding more. Certainly thinks the pilocarpin best of all.

Stricture of the Rectum; Its Causes and Treatment.

J. M. Mathews, Louisville, Kentucky.

Stricture of the rectum is a very serious thing. There is pronounced failure of health in some cases, due to auto-intoxication. He does not believe that it is produced by such trivial causes as do some authors. Some of the causes as set down by various authors are: inflammation—proctitis. It is not possible to have one from this alone. Cicatricial causes: it may result from an imperfect surgical operation and in operation for hemorrhoids. Some say that it is caused by ligaturing the hemorrhoid. Perirectal pressure is mentioned by some as a cause. It may be caused by pressure from the inflammatory condition, but this is a very rare occurrence. Has never seen one himself. Tubercular ulceration is held to be a cause by some, but tubercular stricture usually tends to break down. Has found that most cases of this kind end by breaking down. Spasmodic stricture is mentioned by some. He cannot understand how this can occur. Neoplastic origin is held by others. Had rather deal with this as a neoplasm. Congenital stricture is frequently found, but this is not a pathological condition. Dysentery is regarded as a cause, but he has never seen a case produced in this manner. The Surgeon-General of the United States Army has never heard of a stricture contracted in this way during the war, when dysentery was very prevalent. He has never had an application for pension on this account. If it did exist, there would be stricture only in the mucous membrane, and this would amount to nothing. Why is there not stricture in the higher intestine from typhoid fever? Cancer of the rectum is given as a cause. In such cases, the physician deals with cancer and not with stricture. A real stricture is incurable without surgical treatment, and often not in this way. Believes that syphilis is a very potent cause. Thinks that syphilis is spreading to an alarming extent, not only in bad

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districts, but in the higher walks of life. Has prepared statistics extending over twenty-five years' practice, not from lower life merely, but from the upper tendom. Eight million people in the United States are suffering from stricture. Syphilitics should be prohibited by law from marrying. Syphilis is the real cause of stricture. When he first began his study, it was not believed that it could be caused in this way. Now knows that 60 per cent. of stricture of the rectum is thus produced, and this percentage should be raised. It is incurable in the advanced stages. The object is to get rid of it in the easiest way for the patient and the surgeon. Does not believe in a major operation where a minor one would do. Many operations have been proposed. Gradual dilatation is practiced by some, but thinks that this would cause more inflammation. It may do very well if the dilators are not too large. Believes in rapid dilatation regardless of many objections to the contrary. Pushes the dilator through and tears the stricture. Has never had death nor ill effects. Has had hemorrhage, but without unfavorable results on the next day, and cure has followed. Proctotomy is preferred by many. Others excise the stricture. Of these two procedures, proctotomy is the better. Either cut through and dilate rapidly, or practice slow dilatation. Individually is opposed to slow dilatation.

The Surgical Treatment of Internal Hemorrhoids.

J. Rawson Pennington, M.D., Chicago.

Hemorrhoids are true angiomata. It is best to remove and do away with the injury. Extra-anal and over-anal methods are the best. The indications for operation are frequent protrusions, repeated attacks of inflammation, where they have to be replaced, where they cannot be returned, in cardiac insufficiency if there is much loss of blood. The patient should be prepared by giving a dose of calomel, followed by a saline and an enema just before operation. The lithotomy position is best. Wash parts well. Dilate gently, evert and thus expose hemorrhoids. Hot salt solution should be used over the parts during the operation. Bad results can follow ligature. Stricture may result if the submucosa is caught in the ligature. Patients usually recover in a week or less after this operation.

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The essayist also demonstrated an X-ray tube and tube shield for treating cancer of rectum and other cavities.

Dr. John L. Jelks, Memphis. Agrees with Dr. Mathews that tubercular stricture is rare, but has seen one case. Also coincides with the view that it does not have a tendency to form stricture. Does not agree with him, however, with regard to dysentery never being the cause. Has seen many cases from this cause. Concurs with the view as to syphilis being a prominent cause. Has never seen a spasmodic stricture of rectum, and does not think it exists. Syphilis has not been successfully treated by him. Thinks that this is a more potent cause than usually is thought. He is afraid to break the stricture. He did this once and thought that he was going to lose his patient from sepsis. Has devised a double tube which he uses in irrigating the rectum. He prefers proctotomy. He does not operate in the manner used by Dr. Mathews. Is afraid he will have sepsis, abscess, fistula, etc. He is also afraid of hemorrhage. Does not favor this operation.

Dr. Frank Jones, Memphis. He has recorded 44 cases of stricture of rectum in the last few years, 39 of these occurring in women. In 39 of these cases there was a clear history of syphilis. Two were cancerous and two tuberculous. Has seen them mostly in young women. Found one in the mother of nine children, of which seven were dead. She was seventy years old and had a clear history of syphilis. There is no curability in these cases. Thinks it is futile to use internal medication. Has seen cases where the speculum could not be pushed through. He then uses the uterine dilator. No stricture is benign. In a great many cases there is a tertiary condition, with syphilis, gonorrhea and tuberculosis. Has seen them form in two or three months after chancre.

Dr. M. Goltman, Memphis. He sees many strictures of the rectum in and around Memphis. They are very frequent among the negroes of this city. He laughed at Dr. Jones several years ago on account of the large number reported by him, but now wishes to apologize for his levity. Has seen many cases of dysentery, and has yet to see his first case of stricture as a result.

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Dr. William Britt Burns, Memphis. Was in school under Dr. Mathews, and has constantly followed him in his teachings. He believes that his remarks will do to follow. He saw three cases of stricture in four months due to syphilis, and these were in negroes. Wishes to ask Dr. Pennington if he does not have great pain after using his tampon?

Dr. Mathews, closing. Was glad to have been corroborated by Dr. Jones and others.

Dr. Pennington. Anything that causes narrowing is a stricture, although it may be of large cavity. We may have a stricture as a result of treating hemorrhoids by ligaturing. He saw a patient in Chicago who had tuberculosis, and who also had gonorrhea, according to the microscope. This patient had stricture, and he thinks that gonorrhea was the cause. A similar condition as to gonorrhea in a woman, but negative as to stricture. Would state that there is more chance for hemorrhoids by the ligature method than by his method. No one would treat tumors anywhere else by ligaturing or cautery, and he thinks that we should treat the rectum in the same way. Has never had infection. Of course he has pain, but no more pain than by other methods. Thinks cautery method much more painful, and the ligaturing is very painful on defecation. Bowel movement occasions no pain at all when his method is used.

Medicine and Its Tendencies.

J. B. McElroy, M.D., Stovall, Miss. (See page 617.)

Ophthalmia Neonatorum.

W. T. Michie, M.D., Memphis. (See page 622.)

Dr. J. L. Minor, Memphis. Was sorry to hear the essayist apologize for his paper, for he thinks that this subject is a most important one to the general practitioner. The patients first come into their hands, and later into the hands of the specialist. If proper care were taken, many people might be saved a life of blindness. The cost of maintaining blind persons and the loss of their labor amounts to $23,000,000 annually in the United States.

Dr. C. E. Morris, Savannah, Tenn. Knows of no subject that is more important. No disease is more easy of treatment

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or cure. Ten drops of tannic acid, one ounce of water, with 1 per cent. of carbolic acid added, is used by him. Keeps the eyes clean with hydrogen peroxide. This, with cold or hot applications, yields good results. Objects to the use of nitrate of silver on account of discoloration of the eye.

Dr. I. A. McSwain, Paris, Tenn. The doctor is blamed by the public for the numerous cases of blindness, but the truth is, the doctor is rarely called in to treat these cases. Teach the people the necessity for prompt medical attention on the appearance of the slightest inflammation. The treatment outlined by Dr. Morris is new to him. Prefers the bichloride solution, followed by nitrate of silver. Thinks tannic acid and carbolic acid would be too slow.

Dr. E. C. Ellett, Memphis. A puny, sickly child may lose its eyes regardless of treatment. Blindness may result through no fault of the physician. Has seen two or three cases at the city hospital where the child was born with purulent ophthalmia neonatorum. In a case of forceps delivery, the child had the outer lid of the eye torn. When seen several days later the wound had healed, but purulent inflammation occurred, which the microscope showed to be due to the gonococcus.

Dr. J. H. Stolper, Memphis. There is very little danger of discoloration from the use of nitrate of silver. In hospital experience in New York has seen nitrate of silver used as a prophylactic. One drop of a 2 per cent. solution is dropped into the eye, and the eye then washed out with a salt solution. The nitrate and salt solution neutralize each other and form a sort of preventive.

Dr. J. F. Hill, Memphis. In early stages he thinks that the general practitioner can take care of these cases. Thinks that the best method is hot water first, and nitrate of silver twice a day. Hot water cleans the eye, and by this means does the most good.

Dr. Michie, closing. Was sorry that his specialist brethren have not been progressive enough to use other things besides nitrate of silver. Objects to the discoloration of the nitrate.

Three Peculiar Cases.

Edwin Williams, M.D., Memphis. (See page 644.)

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Intratracheal Medication in Catarrhal Diseases of the Lower Respiratory Tract.

Richmond McKinney, M.D., Memphis.

Detailed experience with medication of bronchial and pulmonary troubles by injecting guaiacol and menthol in olive oil, by means of a specially devised syringe, into the trachea. Has had highly satisfactory results with this method of treatment, which brings the desired agent into immediate contact with the diseased mucosa without the intervention of the stomach and circulatory system. Reported several cases in which the results had been very encouraging. (Will be published in full in later issue of MONTHLY.)

Appendicitis—Report of a Case.

Battle Malone, M.D., Memphis.

All surgeons recognize the fact that all cases should be operated upon. Some cases may recover, but no one can tell which, as a favorable time to operate may be lost. There is no internal medication that will cure. Osler says that we should wait until operation is imperative. Reported a case of unusual clinical symptoms. Diagnosis made and operation advised. Husband out of town and had to wait, and that evening patient was removed to a hospital, but an unfavorable condition prevented operation before morning. Operated later, with recovery. No one can tell what course the disease may run, and they should all be operated upon at once. (Will be published in full in later issue of the MONTHLY.)

Appendicitis Mortality, and the General Practitioner; A Surgeon's View Point.

F. D. Smythe, M.D., Memphis.

Death is rare when operation is performed at the outset. Skillful surgeons lose no cases if they operate at such time. Result may not be so good after perforation and general peritonitis. Most cases could be operated upon safely after diagnosis. Why delay in applying specific remedy? A case not operated upon at once should not be operated upon for several days, thus permitting fixation of the mesentery. Good results occur in this class of cases. Detailed bad results of non-

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operated cases. Tyson says that all cases should be operated on when diagnosis is made. Practical operative experience has proven to the author the mistake of using medicinal treatment. Reported four unsuccessful operations. (Will be published in full in later issue of the MONTHLY.)

Dr. B. G. Henning, Memphis. He had listened to both papers with great interest. They were both written by surgeons, and in support of operative treatment. In an active practice of about a third of a century has seen many cases. After McBurney's discovery he thought that all should be operated on, but he would sometimes come across a patient who would not be operated on and had gotten well, which had taught him a lesson. Has seen deaths from early operation, but never when medicinal treatment was used. Of course operation must be delayed until diagnosis is made. He does not oppose operation, but believes that all appendicitis may be divided into three classes. First, catarrhal inflammation, traveling by continuity. If these cases are left alone they will recover in a few days. Many get well without recurrence, but this may follow. Had saved one patient who had seven recurring attacks. If perforation occurs, nature throws out protection; this being the second class, or perforative. Thirdly, there is the gangrenous. Death results in these cases at once. Where there is gangrene, he believes death will follow, whether an operation is done or not, so he believes that we may wait. If the patient has frequent attacks and is kept from business, the operation should be performed, but do not be too quick. He does not think that Dr. Smythe has better results with his method of treatment than he does by his. He has seen a number of cases of hernia formed through the site of incision for appendicitis.

Dr. J. P. Runyan, Little Rock, Ark. Was sorry to hear the opinion of Dr. Henning. This is no laughing matter. Thinks that there is no way to classify without operation. Dr. Henning makes the best argument of all for early operation. Operate upon without delay, and 99 per cent. will recover. Did Dr. Henning ever see a case of hernia result from appendicitis, except in cases of delay and perforation? Thinks that Dr. Henning's opinion is very dangerous. At the American

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Medical Association's last meeting the opinion of the majority was to operate at once. It is not so simple to open the abscess after diffused peritonitis has resulted, but it is a very simple operation if done at once.

Dr. William Krauss, Memphis. He could report four cases treated by medicine that fell into the hands of the undertaker, and could report two cases operated on that recovered. The first of the four cases was incorrectly diagnosed, the second had peritonitis, the third was seen at night and operation advised, but this was refused and the patient died. In one case with history of several previous attacks, operation had been advised, but was refused. The last attack was ushered in with a chill, but quinin failed to relieve. Microscopic examination of the blood revealed pus. Operated on by Dr. Smythe, and the appendix found full of pus. None elsewhere. If he could get a good surgeon would be operated upon, but otherwise would trust to medicine.

Dr. J. H. Stolper, Memphis. Thinks that no one has spoken with better reason than Dr. Henning. There are cases where operation is necessary. If diagnosis could be made, would say operate at once. He had seen a case where Dr. McBurney operated and found no appendix.

Dr. J. S. Rawlins, Dancyville, Tenn. Has seen three cases in the last few weeks. Very frequently it is impossible to place the patient in the hands of a surgeon. He had a case that was diagnosed as appendicitis, and called Dr. Smythe. The doctor got there in six hours. No symptoms of gangrene. On operation, gangrenous appendix was found, and patient died. The next patient was a negro in a cabin. He had a young physician who concurred with him in the diagnosis. Had to use medicinal treatment. Kept everything out of the stomach and treated as best he could. Recovery. Another patient was a woman who had an attack of colic. Husband would not permit operation. Had to treat medicinally. Kept in good condition. Cannot tell condition of the patient, but she may get well.

Dr. W. B. Sanford, Memphis. Was sorry to see the association divided on this subject. Thinks that Dr. Henning has made mistakes in diagnosing, and has really lost cases that he did not recognize.

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Dr. Frank Jones, Memphis. Was sorry to hear the opinion of Dr. Henning. Agrees with the surgeons that the knife is the only cure. He thinks that any man can make a diagnosis from clinical symptoms. Some claim that the patient is well for good, but he thinks that they get well for good only by the use of the knife. Can see no reason for delay of operation, but operate at once.

Dr. J. A. Crisler, Yazoo City, Miss. He does not think Dr. Henning meant what he said. Thinks Dr. Henning has had no cases of appendicitis in his practice. Cannot see how any sensible man can take the position of Dr. Henning. Thinks that Dr. Henning would do as much harm by his opinion as to oppose vaccination.

Dr. B. F. Turner, Memphis. Thinks that Dr. Rawlins has come as near the truth as anyone else who has spoken. In many cases it is very hard to get to the surgeon. The patient may be too poor to secure his services, and it may be necessary to perform the operation under a great many disadvantages. The majority of these cases must be treated in the country. In the cases that cannot reach the surgeon, we must do the best we can with medicine.

Dr. Moore Moore, Memphis. Has seen many cases, and from what he has seen, he would not liked to have treated these with medicine.

Dr. I. A. McSwain, Paris, Tenn. Thinks Dr. Henning said what he did to provoke discussion. Thinks that Dr. Turner's position is well taken. He is merely a general practitioner, but he would operate himself, if he had a case, in preference to treating it with medicine.

Dr. G. Frank Lydston, Chicago. Has himself had two attacks. The first being treated medicinally and cured. The second was treated surgically and cured. Has not had an attack since. The question of the patient and the doctor has not been dwelt on as much as it should be. In a study of one thousand cases treated both ways, the surgeon's way would show the best results. On a recent trip to the Orient, he had found in the various hospitals visited by him, that in all cases operation was performed at once. Medicine relieves, but the knife alone cures. American surgery is very much appreci-

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ated in the Orient. American ideas are much used, and students come to America for study.

Dr. M. Goltman, Memphis. Every physician should know two operations for hernia, tracheotomy and appendicitis.

Dr. Malone, closing. He knows no man whose opinion he had rather have than that of Dr. Henning, but thinks that he disagrees with all authorities. The diagnosis is easy. He has seen about one hundred cases, in forty of which operation was done at the first attack. Of these forty, there was not a single death. In case of perforation, there are not always adhesions formed around the appendix. Thinks Dr. Rawlins' opinion was the most sensible expressed. We cannot tell the different classes from the symptoms. Therefore all cases should be operated upon at once.

Dr. Smythe, closing. Appendicitis is a very complicated disease and very varied in termination. He believes that the correct opinion has been arrived at—that operation must be performed at once. Medicine may be used if surgery cannot be resorted to. Dr. Henning's opinion is contrary to that of anyone else.

Dr. Henning. He desires to explain his position, as he is afraid that he has been misunderstood. He hardly thought that he was going to arouse so much discussion. Dr. Turner expressed his view. Is not in favor of immediate operation, but is not opposed to operation in case of pus or of recurring attacks. Cases can be treated by medicine without operation at once. Often operation must be done, but in case of gangrene, thinks that operation can do no good. Has had no cases to die of appendicitis.

[Continued in next issue.]

MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY.

Regular meeting, Tuesday evening, November 18, 1902.

President Dr. Alfred Moore in the chair. Present, Drs. Alfred Moore, Barton, Hall, Crofford, Ed. Williams, Black, Wadlington, Cummings Harris, Moore Moore, Rudisill, Bell, H. Lee Farris, Miller, E. E. Haynes, Ham, Castles, Krauss.

Visitor, Dr. W. P. Yerger.

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Program: "*Feeding in Fevers.*"—Dr. D. M. Hall. (See page 647.)

Report of Some of Dr. T. J. Crofford's Gynecological Cases. Dr. W. P. Yerger.

DISCUSSION OF DR. HALL'S PAPER.

Dr. Black thought solid food would always cause an elevation of temperature as long as patient had any fever.

Dr. Moore Moore desired to know if the author gave solid food in both malarial and typhoid fevers during convalescence.

Dr. Crofford said he had no experience in giving solid food in fevers.

Dr. E. E. Haynes said, considering the pathology of fevers, especially typhoid, he could not see how the patient could take care of solid food.

Dr. H. Lee Farris would not give solid food to a typhoid patient while there was any temperature.

Dr. Bell said that solid food was not absolutely forbidden by the best authorities.

Dr. Hall said in conclusion, while he knew that text-books taught we should not give solid food in these typhoid fever cases, his experience showed that his patients had improved upon solid diet. Had given solid food to both malarial and typhoid patients while they still had temperature after the abdominal symptoms had subsided, with the best results.

Discussion of Dr. Yerger's paper. (Will be published in later issue.)

Dr. E. E. Haynes said that the general practitioner often overlooked the danger done to female organs of generation in these gonorrhea cases. Could not be too careful in the treatment of these cases from the first.

Dr. Castles thought we paid too little attention to the treatment of gonorrhea in the female.

Dr. Crofford said that he desired to call special attention to the extra-uterine pregnancy case. Said this was unlike any which he had ever seen. Was enclosed in a sac, had no pedicle, and the entire placenta was removed without any hemorrhage. In most of these cases the placenta can be removed without great danger to patient's life.

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Dr. Crofford presented some most interesting specimens, products of ectopic gestation, which he had removed from patients.

Adjourned.

BOOK REVIEWS.

PROGRESSIVE MEDICINE, VOL. III, SEPTEMBER, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 421 pages, 26 illustrations. Per volume, $2.50, by express, prepaid to address. Per annum, in four cloth-bound volumes, $10. Lea Brothers & Co., Publishers, Philadelphia and New York.

Progressive Medicine for September contains several articles which render this quarter's issue more than ordinarily interesting. The first article is written by Dr. William Ewart, of London, who is known everywhere for his ability in the line that he discusses—the diseases of the thorax and its viscera, including the heart, lungs and blood vessels. William S. Gottheil, in characteristic style, devotes his attention to dermatology and syphilis. The pen of William G. Spiller is turned to the presentation of the diseases of the nervous system, and last, but not least, Richard C. Norris reviews the entire ground of obstetrics in a most painstaking manner. Progressive Medicine is a most valuable addition to the practitioner's library, in that he is kept *en rapport* with medical progress without the necessity of delving deeply and extensively into the vast output of medical literature.

A TEXT-BOOK OF PHYSICAL DIAGNOSIS. For Students and Practitioners of Medicine. By Egbert Le Fevre, M.D., Professor of Clinical Medicine and Associate Professor of Therapeutics, University and Bellevue Medical College, Attending Physician to Bellevue and St. Luke's Hospitals, etc., New York. 12mo., 440 pages, with 74 engravings and 12 plates. Cloth, $2.25, net. Lea Brothers & Co., Philadelphia and New York.

While it is the most important department in medicine, physical diagnosis has comparatively few good text-books devoted to the presentation of its various aspects. We must then consider ourselves fortunate in this recent acquisition to the literature of this subject, for Dr. Le Fevre is eminently qualified by his experience as a clinician and teacher to thoroughly expound the subject of physical diagnosis in its most modern phases. In this work he has given careful descriptions and instruction for inspection, palpation, percussion, auscultation, etc., in diseases of the respiratory and circulatory systems of the abdominal organs. The significance of these manipulations, the respiratory and cardiac sounds, their production and modifications, both normal and pathological, are fully explained. There are also special chapters devoted to the respiratory tract, heart, pericardium, blood vessels, etc., and there is a section illustrated with twelve full-page plates, in which the author covers the latest results in X-ray diagnosis.

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REYNOLDS & NEWELL'S PRACTICAL MIDWIFERY. A Manual of Obstetrics for Students and Physicians. By Edward Reynolds, M.D., Assistant in Obstetrics, etc., and Franklin S. Newell, M.D., Assistant in Obstetrics and Gynecology in Harvard University Medical School. Boston. In one octavo volume of 531 pages, with 253 engravings, and 3 full page colored plates. Cloth, $3.75 net. Lea Brothers & Co., publishers, Philadelphia and New York, 1902.

Manuals of practical midwifery, when they are practical, are none too common, and have a definite sphere in medicine that cannot be occupied by the more voluminous treatises.

The author of this manual has undertaken to render the details of obstetrics readily available for students and accoucheurs. The work covers in a succinct and clear manner the entire subject of obstetrics, and where treatment is indicated, confines this to a single clear line, avoiding a confusing mass of material. It also does not neglect the subject of obstetric surgery, and is explicit in stating the indications arising in such, and is so definite in its teaching that the merest novice would not likely go astray.

This new edition has practically been rewritten and has been enlarged, both in text and illustrations.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., B.SC., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fourth edition, enlarged and thoroughly revised. In one octavo volume of 727 pages, with 236 engravings and 25 full-page colored plates. Cloth, $5 net; leather, $6 net; half Morocco, $7 net. Lea Brothers & Co., publishers, Philadelphia and New York.

So far as words of introduction from us concerning this work are concerned, they would be perfectly useless, for Hare's Practical Diagnosis would not now be in its fourth edition without it were generally well known. It is a work which occupies a field more to itself than its title would imply, since its principal object is to present the symptoms of a disease as they appear, and from this group of symptoms to arrive at a diagnosis, following the methods which are ordinarily employed at the bedside. It is not merely a work on physical diagnosis, but is also a work on practical diagnosis, providing the practitioner with an aid to arriving at a diagnosis in all classes of diseases which come within the scope of internal medicine. But in addition to these, this new edition includes not only the symptoms which lead to a diagnosis, but the physical signs and clinical tests which experience has proved to be reliable. A great number of illustrations, most of them dealing with actual cases, add considerably to the value of the work.

A NURSE'S GUIDE FOR THE OPERATING ROOM. By Nicholas Senn, M. D., PH. D., LL. D., C. M., Professor of Surgery, Rush Medical College, in affiliation with the University of Chicago; Attending Physician to the Presbyterian Hospital; Surgeon-in-Chief to St. Joseph's Hospital. Published under the direction of the Sisters of Charity, St. Joseph's Hospital, 360 Garfield ave., Chicago. W. T. Keener & Co., 90 Wabash ave., Chicago.

The directions contained in this small book will prove valuable to every nurse who has occasion to assist in operative work. Dr. Senn gives the results of his extensive observations as to the requirements for such purposes, and there could be no better exponent of the needs of such cases.

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A TEXT-BOOK OF ANATOMY. By American Authors. Edited by Frederic Henry Gerrish, M.D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Second edition, thoroughly revised and enlarged. In one imperial octavo volume of 943 pages, with 1003 engravings in black and colors. Cloth, $6.50 net; leather, $7.50 net; flexible water-proof binding, for use on the dissecting table, $7 net. Lea Brothers & Co., publishers, Philadelphia and New York.

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